BIG SPRING SCHOOL DISTRICT

NEWVILLE ELEMENTARY SCHOOL
Facilities Study
June, 2015

- ***Newville Elementary School Facilities Study***
- ***District-Wide Feasibility Study Update***

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FORWARD

Crabtree, Rohrbaugh & Associates is pleased to present this Facilities Study Report to the Big Spring School District. This report has been developed to assist the Big School District Board of Directors, staff and community in the decision making process regarding the future utilization and disposition of the Newville Elementary School Additionally, the report will provide an update as to the current overall status of the school district, with respect to demographics and enrollment, as well as the current status of district-wide facilities.

This report should be viewed as a starting point, or benchmark; providing the framework from which a facilities improvement project can be implemented for desirable improvements at the Newville Elementary School. Any recommendations that result in new construction and/ or upgrades to the present facilities should be structured to align with the Big Spring School District's Mission, Beliefs and Educational Programs.

Principles of the Report

In the Commonwealth of Pennsylvania, the Departments of Education, Environmental Protection and Labor & Industry have established guidelines for school programs, school sites, buildings and supporting facilities needed to provide a well-rounded, complete and safe educational experience for the students.

These guidelines include:

- Curriculum regulations, including the ESEA (Elementary & Secondary Education Act), and "No Child Left Behind" requirements on the federal level, and the state "Chapter 4" academic and assessment standards will continue to impact facilities.

- School sites must be of adequate size to provide for the safety of the students, provide outdoor play areas, bus loading and unloading and parking for staff and visitors.

- Learning environments should be learner-centered, developmentally and age appropriate, safe, comfortable, accessible, flexible, and equitable, in addition to being cost effective.

- School facilities should meet the educational, physical, intellectual, social and emotional needs of students and create an environment that will encourage students to learn.

- Flexibility, including spaces to provide for the various teaching and learning styles, is essential to educational facilities.

- Cost of school construction, energy and ongoing maintenance and operation of school facilities will continue to be a major financial impact to school districts. It will become increasingly important to consider cost effective solutions to address these ongoing important issues.

Assumptions

General

- The citizens of the Big Spring School District desire to provide an educational opportunity for all students and will support the limited funding required to maintain equitable, quality educational environments at all levels.

- **The intent of this report is to provide the Big Spring School District with a facility assessment and recommendations for the Newville Elementary School including a preliminary evaluation of the physical plant and educational related needs, as well as an overview of school district demographics, and a district-wide facilities update.**

- Detailed educational programming and design is not part of the scope of this feasibility study. Any planning and design necessary for any project that the school district may undertake should be part of a comprehensive and integrated design process, involving all stakeholders.

Demographic

- Since 2007-08, student enrollment in the Big Spring School District has decreased approximately 14.0% to the **2014-15** enrollment total of **2,616.**

- **The Pennsylvania Department of Education enrollment projection data** indicates a slightly declining K-12 enrollment over the ten year projection period, with the enrollment climbing back to almost the current level in the year 2021-22. The data indicates that:

  - The K-5 Enrollment is projected to **increase 10.1%** from its current total of 1,160 students to 1,291 students in 2021-22.

  - The 6-8 Enrollment of 601 students is projected to **decrease 13.3%** to 521 students in 2017-18, then climb back to 602 students in 2021-22.

  - The 9-12 Enrollment is projected to **decrease 16.1%** through 2021-22, with a projected enrollment of 717 students.

- **CRA Cohort Survival projections** indicates a slightly less than 1% decrease in the K-12 enrollment through 2024-25. The data indicates that:

  - The K-5 Enrollment is projected to **increase 5.7%** from its current total of 1,160 students to 1,226 students in 2019-20, and then is projected to decline to 1,189 students in 2024-25, an overall 2.5% increase over the ten year projection period.

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Assumptions, cont'd

- Enrollment projection models include basic limitations such as: internal school district policy changes, external factors, and other considerations such as emerging and changing housing and population trends, all of which can have an effect on the accuracy of the program. Although each of these factors will have an impact on future student enrollment, fluctuation in new housing will likely serve as the catalyst for increases or decreases in student population.

- Construction of new housing and annual live birth data will have a direct effect on the enrollment projections and should be monitored annually. Although it is apparent that while the population in the school district will likely continue to increase, there is no anticipated significant increase in overall student population expected in the near future. A review and analysis of housing and population trends suggests that long term, the school district could experience an increase in student enrollment.

- For planning purposes, reviewing and updating annual live birth and retention ratios, as well as monitoring census data, housing data and changes in local land development is important. Using recent historical averages as a planning tool is recommended.

Organization / Academic

- Providing space for special programming, social services, special education and "pull-out" programs such as art, music, reading support and other resource activities will reduce the functional capacity of the school buildings.

- The class size guidelines of the Big Spring School District will have an effect on the functional capacity of the facilities.

- The Big Spring School District maintains a full day kindergarten program. Expansion of the Pre-School program, although not anticipated in the foreseeable future, would have an impact on the capacity of the current elementary school facilities.

- As teaching strategies change and programs are adjusted to meet the different learning styles of students, facilities are affected. Some students learn best in large groups, while others learn best in visual presentations or through written or spoken communications.

- Having a school environment that allows for these various types of learning and demonstration of competencies requires flexibility and adaptability of physical space.

- School Districts must accept the challenges of NCLB as a long-term, necessary investment of money, time, and focus in an effort to participate in a state-wide effort to in making a commitment to help all students succeed at the high levels envisioned in NCLB

Facilities

- Schools should be safe and accessible to all students and adults, adequately sized to meet educational planning standards and criteria, and provide for a comfortable environment to facilitate year-round use and the inclusion of technology as a teaching tool. In order to accommodate large numbers of students, in an efficient and safe manner, school facilities should be efficiently designed, with clearly delineated paths of travel.

Assumptions, cont'd

- School sites should be safe and accessible and provide for efficient and safe movement of vehicular and pedestrian traffic. Adequate parking and bus drop-off areas should be provided and ideally separated to insure safety and efficiency. Athletic fields and playgrounds should be provided to reinforce the educational program.

- School facilities should include a variety of learning spaces such as instructional classrooms, small and large group learning areas, specialized instruction space and laboratories.

- Elementary schools should provide opportunities for students to have hands-on experiences as part of the learning process, which requires adequate space.

- Middle School provides a transition from the self-contained, nurturing environment of the elementary school to the departmental configuration of the high school. Students are introduced to departmental and interdisciplinary teaching, flexible scheduling, collaborative learning, and flexible grouping. The Middle School should support and enhance the needs of the students such as, diversity in experiencing teaching, curriculum and scheduling, self exploration and self definition, meaningful participation in school and community, need for physical activity, positive social interaction with peers and adults, and the need for structure and clear limits.

- High schools are dedicated to the concept of group instruction; however need the facilities to reinforce the emphasis on individualized learning that has emerged. New courses of study and expansion and development of educational curriculum offerings in the high school have created the need for more specialized rooms, often requiring larger, more flexible space. High school facilities should be efficiently designed, with clearly delineated paths of travel. High school buildings need to accommodate large numbers of students in an efficient and safe manner.

- Schools should be safe and accessible to students and adults, adequately sized to meet educational "best practices" planning standards, and provide a comfortable environment to facilitate year-round use and ubiquitous technology.

- Flexibility in design, including providing spaces for 21st century collaborative and hands-on learning opportunities, is critical and essential for educational facilities.

- With the ability to communicate globally and the information explosion that technology has facilitated, schools will need to remain flexible and adaptable to respond to twenty first century educational technology, as well as teaching and learning styles.

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- The appearance of school buildings provides a first and lasting impression of the school system to both children and adults. The quality of the educational opportunities is inferred. Continuing efforts should be made to maintain the interior and exterior of all school facilities.

Vision and Mission Statements

Mission Statement

The Big Spring School District provides educational experiences that enable students to achieve their goals.

Big Spring School District Vision

Building on the Past, Looking to the Future.

We Believe….

- students share the responsibility for their education and development of life-long goals.
- family responsibility and community involvement are essential to each child's educational success.
- students benefit from and are encouraged to participate in a diverse offering of programs that enhance their educational experience.
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- all students can learn.
- students learn to be creative thinkers, collaborative problem-solvers, and effective decision-makers.
- In a comprehensive curriculum
- our community prospers from the educational experiences of its children.
- the entire community is responsible for a safe school environment.
- in a district-wide accountability system that provides data to make instructional decisions.
- all staff and students will become technologically literate.
- the school district must utilize resources in a responsible, efficient, and effective manner.
- the school district should enlist the expertise of businesses, community groups, higher education, and other agencies to foster the knowledge, skills and attitudes of life-long learning.
- in providing and maintaining quality educational materials, equipment and facilities.
- in providing high quality staff development for all personnel based on identified needs and instructional initiatives.

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SECTION 2 - PROGRAMMING

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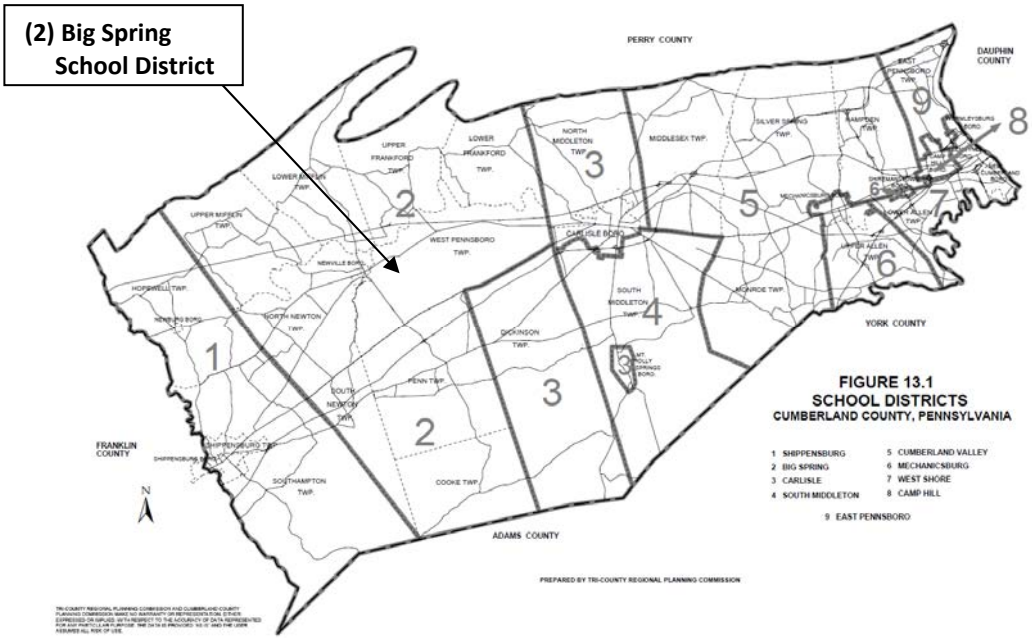
DEMOGRAPHICS

Geography / Overview

- The Big Spring School District is a midsized, rural, public school district which serves the residents of the Borough of Newville and Cooke Township, Lower Frankford Township, Lower Mifflin Township, North Newton Township, Penn Township, South Newton Township, Upper Frankford Township, Upper Mifflin Township and West Pennsboro Township in Cumberland County, Pennsylvania. Big Spring School District encompasses approximately 198 square miles. In the 2010 census, the District's population was reported as being 19,098.



- Since 2007-08, student enrollment in the Big Spring School District has decreased approximately 14.0% to the 2014-15 enrollment totals of 2,616.

- Population in Cumberland County increased 9.4% from 1990 to 2000, according to Census data. Population in the Big Spring School District increased 11.1% during this time period.

- According to Census data, from 2000 to 2010, population in Cumberland County increased 10.17%, while population in the Big Spring School District increased 5.1%. The largest percentage increases of population per municipality were Cooke Township, Upper Franklin Township, Lower Mifflin Township, North Newtown Township, and South Newtown Township.

- Population in Cumberland County is projected to increase approximately 10% between 2010 and 2020.

- The Tri-County Regional Planning Commission used the concept of a Planned Growth Area (PGA) in the development of their Regional Growth Management Plan.2 The intent of Planned Growth Areas is to locate the majority of new development and building densities in or near areas with existing public services and infrastructure. To maintain consistency between the Regional Growth Management Plan and the County Comprehensive Plan, the PGAs were used as a tool to develop Cumberland County's Future Land Use map.

DEMOGRAPHICS

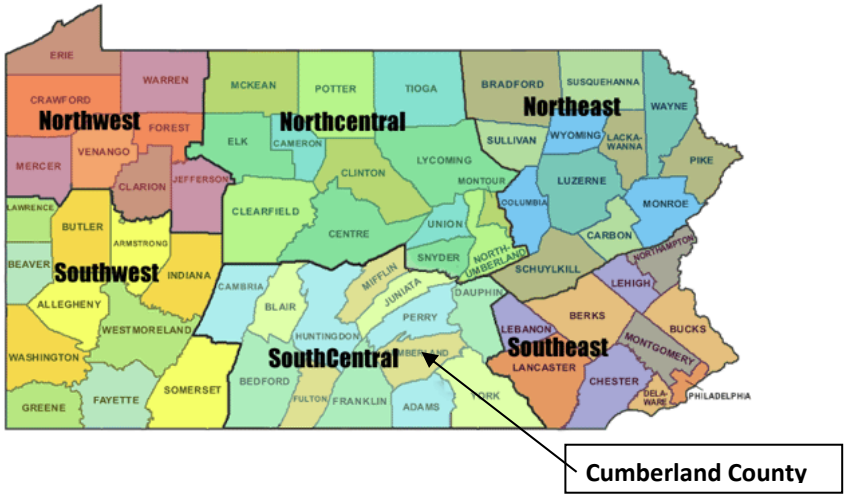
Wealth

- All municipalities within the Big Spring School District were reported in the 2000 Census data as having median household income that was beneath the County median household income levels. All municipalities except Penn Township, South Newton Township, and West Pennsboro Township were reported as having median household income that was beneath the State median household income levels.

- The 2000 census data indicated that all municipalities within the Big Spring School District, except Penn Township, reported a percentage of families living below the poverty level that was higher than the County percentage. All municipalities with the exception of Newville Borough, reported a percentage of families living below the poverty level that was lower than the State percentage.

State Financial Aid

- The current Market Value Aid Ratio (MVAR) for the Big Spring School District, as determined by the Pennsylvania Department of Education is .5425.



School Facilities

- With a current student population of approximately 2,616, Big Spring School District is one of the smaller school districts in Cumberland County. Big Spring School District occupies three elementary buildings, one middle school, and one high school. The school district administration offices are located in an annex building, adjacent to the current Mount Rock Elementary School.

- Big Spring School District is a three-layer district with instruction organized into an elementary division, middle level division, and high school division. Curricular design has been aligned with a K-2, 3-5, 6-8, and 9-12 configurations. All three elementary schools house Grades K-5. The middle school serves Grades 6, 7 and 8 and utilizes a team approach designed around a team of core teachers for math, english, reading, social studies, and science. The high school utilizes a six period schedule and serves students in Grades 9-12. General curriculum courses are offered, as well as Advanced Placement (AP), Dual Enrollment and Honors courses.

- The school district currently employs approximately 227 teachers, 289 full-time and 83 part-time support personnel, and 16 administrators. Big Spring School District students have consistently scored at or just below the state averages on the SAT exam. Over the past 5 years an average of 71% of BSHS seniors have pursued post-secondary education, and this trend is increasing.

DEMOGRAPHICS

PA Department of Education Enrollment Projections

Big Spring SD **1-15-21-050-3**

YEAR	K	1	2	3	4	5	6	7	8	9	10	11	12	Total
2007-2008	167	195	235	231	221	217	269	224	245	274	271	273	222	3044
2008-2009	183	193	206	238	236	229	218	277	227	248	273	268	268	3064
2009-2010	198	181	188	201	237	229	231	222	269	228	255	260	246	2945
2010-2011	174	201	182	183	207	225	244	230	220	273	231	238	237	2845
2011-2012	185	168	207	181	186	209	234	247	220	227	265	221	230	2780
P R O J E C T I O N S														
2012-2013	179	161	171	205	184	184	215	237	243	223	227	254	209	2692
2013-2014	202	172	164	169	208	182	189	218	233	247	223	217	240	2664
2014-2015	191	194	175	162	172	206	187	192	214	237	248	214	205	2597
2015-2016	207	183	197	173	165	171	212	190	189	217	238	238	202	2582
2016-2017	211	199	186	195	176	164	176	215	187	192	217	228	225	2571
2017-2018	215	202	202	184	198	174	169	178	211	190	192	208	215	2538
2018-2019	218	206	205	200	187	196	179	171	175	214	190	184	196	2521
2019-2020	222	210	209	203	203	185	202	182	168	178	214	182	174	2532
2020-2021	226	214	213	207	206	201	190	205	179	171	178	205	172	2567
2021-2022	230	218	218	211	210	204	207	193	202	182	171	170	194	2610

Various Grade Groupings of the Enrollment Projections

YEAR	K-4	K-5	K-6	K-7	K-8	K-9	K-12	5-8	6-8	7-8	6-9	7-9	7-12	8-12	9-12	10-12
2011-2012	927	1136	1370	1617	1837	2064	2780	910	701	467	928	694	1410	1163	943	716
2016-2017	967	1131	1307	1522	1709	1901	2571	742	578	402	770	594	1264	1049	862	670
2021-2022	1087	1291	1498	1691	1893	2075	2610	806	602	395	784	577	1112	919	717	535
2011-2012 to 2021-2022																
Change	160	155	128	74	56	11	-170	-104	-99	-72	-144	-117	-298	-244	-226	-181
Percent	17.3	13.6	9.3	4.6	3.0	0.5	-6.1	-11.4	-14.1	-15.4	-15.5	-16.9	-21.1	-21.0	-24.0	-25.3

- The Birth rate in the school district has fluctuated, but overall has decreased from 2002 through 2009, but has begun to increase since. The birth rate will fluctuate with planned development and increase in population.

- According to PDE data, the total student population decreased from 3,044 to 2,780 a **decrease of 8.7%** over the period from 2007-08 through 2011-12.

- From 2011-12 to the 2014-15 school year, the total student population has decreased from 2,780 to 2,616 students, a **decrease of 5.9%.**

- The PA Department of Education enrollment projections indicate a fluctuating enrollment with a total population of 2,610 students in the year 2021-22, a **projected decline of less than 1% from the current enrollment.**

DEMOGRAPHICS

CRA Cohort Survival Projection

CRA reviewed the birth rate and cohort survival ratios for the most recent five year reporting period between 2009-10 and 2014-15. CRA calculated 3 year, 4 year and 5 year mean averages for the retention and birth rates. CRA then projected enrollment through the 2024-25 school year utilizing the 5 year mean average for the first five years of projection and the 3 year mean average for the second five year projection period.

K-12 Enrollment Forecast

(Utilizing 5 year mean for 2015-16 through 2019-20 and 3 year mean for 2020-21 through 2024-25)

Year	2015-16	2016-17	2017-18	2018-19	2019-20
K	196	212	175	201	204
1	220	195	211	174	202
2	193	223	198	214	177
3	180	190	220	195	211
4	190	186	196	228	202
5	178	193	188	199	231
6	213	182	197	193	204
7	193	212	181	196	192
8	188	190	208	178	193
9	218	189	191	210	179
10	226	214	187	189	207
11	225	212	200	174	176
12	192	213	200	189	165
Total	**2,611**	**2,611**	**2,554**	**2,540**	**2,542**

Year	2020-21	2021-22	2022-23	2023-24	2024-25
K	191	192	192	192	192
1	204	191	192	192	192
2	204	206	193	194	194
3	175	202	204	191	192
4	220	181	210	212	199
5	209	228	188	218	220
6	232	210	229	189	219
7	202	229	208	226	187
8	190	200	227	206	224
9	193	190	199	227	205
10	176	189	186	195	222
11	192	163	176	172	181
12	167	182	155	166	163
Total	**2,554**	**2,563**	**2,558**	**2,581**	**2,591**

- The CRA cohort enrollment projections indicate an overall **2.8% decrease in the K-12 enrollment** from the October 2014 enrollment figure of 2,616 to 2,542 in 2019-20.

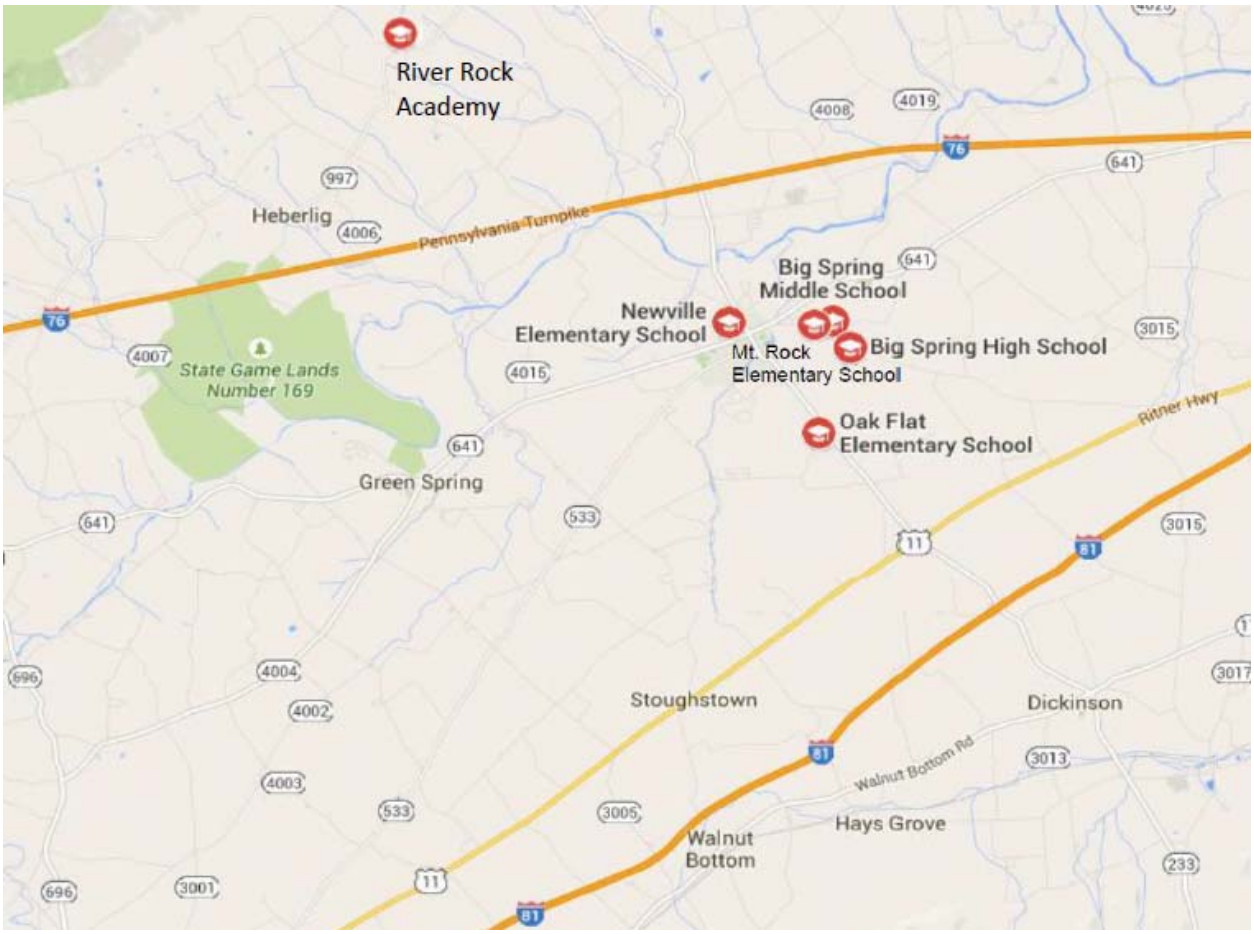
- The CRA cohort enrollment projections indicate an overall 1**.9% increase in the K-12 enrollment** from 2,542 in 2019-20 to 2,591 in 2024-25.

DEMOGRAPHICS

Conclusion

A review of the population and housing trends as an indicator of future growth, indicate that for the short term, the total district enrollment will continue a slight decline, but that long term, the total enrollment ten years out, could return back to 2014-15 enrollment levels. The annual birth rate and retention rates should be monitored so that the school district can stay ahead of any changing enrollment trends. At this point in time, barring any major future planned development, no significant enrollment increase is projected.

As a planning tool, it is recommended that for planning purposes for any school construction project that the School District undertakes, the enrollment figure of the current enrollment, plus 10% be utilized, which the Department of Education will allow for reimbursement purposes, and which will provide for flexibility in future programming and planning.



Location of Big Spring School District School Facilities

EDUCATIONAL PROGRAM

Big Spring School District's Educational and Organizational Goals
The Strategic Planning Team identified eight goal areas for the Strategic Plan. Tasks / projects were placed into each goal area by the Strategic Planning Team for consideration as priorities.

- **Educational Programs** – To provide a K – 12 educational program that meets the needs of all students and offers the highest probability for student learning.
- **Pupil Services** – To provide a system of pupil services based on student needs.
- **Educational Climate** – To provide an atmosphere in which students and staff are engaged in the learning process.
- **Technology** – To provide state-of-the-art technology to support the curriculum and instruction.
- **Personnel** – To provide quality services through effective human resource selection, recruitment, training, motivation, and evaluation.
- **Governance** – To provide a system for the district to achieve its mission through effective resource management.
- **Finance** – To provide a quality financial system which supports the mission of the district.
- **Facilities** – To provide safe, inviting facilities appropriate for the teaching/learning process.
- **Communication** – To provide internal and external communication that supports understanding of the total school program.

OVERVIEW

The Big Spring School District's educational program not only addresses the present needs of the students but also the challenges of the 21st century. A comprehensive and solid foundation in basic education, supplemented with knowledge and skills acquired through research and practical experience, will prepare students for the numerous technological and societal changes of the times.

The Big Spring School District provides high quality learning experiences to our students that are structured to capitalize on their unique interests and aptitudes. These experiences accumulated over their Big Spring Educational careers, both formal classroom experiences and relevant application of their learning to community-based opportunities, foster growth and readiness in our students for college or their careers. The summary of programming below helps to provide for the architecture behind this commitment to our students and the community.

Elementary School Education
At the elementary level, a significant emphasis is placed on high achievement of literacy and numeracy proficiency. As the fundamental building blocks to success in all areas, these foundational skills are developed and cemented through core classroom instruction. This instruction is delivered through engaging content, leveraged through technology, in a format that is responsive and dynamic to each student's needs. This process is structured through a dynamic interplay of on-grade level whole group instruction, targeted small group instruction at each student's instructional level, and individual instruction and practice of core skills at each student's independent instructional level. To accomplish this, the physical space has become the platform leveraged to engage in this model. The space must be versatile, flexible, and engaging.

EDUCATIONAL PROGRAM

Middle School Education

When students enter the middle school, a key awareness has been developed on their growth as learners and precise plans have been established and employed for their individual success. These customized learning plans are integrated into the core middle school instruction, which is based in teams. The teams at the middle school are designed to create more intimate learning communities for the students and teachers. This structure further enables staff to craft targeted lessons for their students' needs. Beyond that, significant experiences are facilitated for students to gain awareness of potential career options or interests that they will further pursue at the high school level. This awareness is fostered through direct exposure to career instruction, engagement with project based learning in these areas, and a formal connection of each student's career interests to their aptitudes and high school course pathways.

Again, the physical instructional space at the middle school must be conducive to providing this method of programming to the students. The space must provide for the use of technology to engage and connect students beyond the physical structure. In addition, to develop key collaborative learning opportunities, the space must be flexible to construction of whole group or small group instruction.

High School Education

The culmination of the students' progress along their K-12 educational careers naturally takes place within the high school. The high school programming is built around five key career pathways:

1. Arts and Communication;
2. Business, Finance, and Information Technology;
3. Engineering and Industrial Technology;
4. Human Services; and
5. Science and Health

Students, in coordination with their parents, advisors, and school counselors, craft their educational experience to target their unique interests, aptitudes, and career goals. Through their formal coursework and real-world experiences (internships, job shadows, etc.), students begin to develop their post-graduation plans. Delivering the courses necessary to prepare students for success beyond Big Spring requires curricula and instructional practices that are responsive to societal needs and demands. The high school experiences develop the key 21st Century career needs of employees to be critical thinkers, collaborative, effective communicators, and creative. Providing experiences to develop these core skills requires us to provide physical spaces that are versatile, current, and engage our students within our physical structure and with the interconnected global community.

Within the Big Spring School District, a key learning over the last ten years has been the need for curricula to be flexible, dynamic, and engaging. This has led to a reduction of the seven-year curriculum revision cycle to an on-demand revision cycle. This helps to ensure that instructional content and mechanisms for delivery are current, relevant, and engaging. Beyond that, never in education has the physical structure of schools been seen more as a resource or catalyst for learning. A key learning within our District has been that a well-designed instructional space can truly facilitate accomplishment of the instructional objectives. Unfortunately, the reciprocal is true as well. Our challenge as school leaders is to connect vision, reality, and resources to engage our students in learning experiences and the learning environment that will provide them with the greatest benefit when they engage in society.

EDUCATIONAL PROGRAM

Advanced Placement (AP), Dual Enrollment and Honors Courses

Big Spring High School offers academic courses as Honors, Advanced Placement (AP), and Dual Enrollment/College in the Classroom that provide challenging educational opportunities requiring in-depth research, writing, and advanced study skills. Students are recognized for meeting the academic challenges of these courses with grade weighting:

Dual Enrollment

The Big Spring High School offers a dual enrollment program. This state program permits high school students to take courses, at local higher education institutions, to earn college credits. The courses count towards high school graduation requirements and towards earning a college degree. The students remain enrolled and continue to have full access to activities at the high school. The college credits are offered at a deeply discounted rate. The state offers a small grant to assist students in costs for tuition, fees and books. According to state regulations, students that reside in the Big Spring School District, who attend a private school, a charter school, a cyber charter school or are homeschooled are eligible to participate in the District's dual enrollment program.

AP Courses

In 2013, Big Spring High School offered 9 Advanced Placement (AP) courses at a higher cost than regular courses. Students have the option of taking College Board approved courses and then taking the College Board's examination in the Spring. Students, who achieve a 3 or better on the exam, may be awarded college credits at US universities and colleges. Each higher education institution sets its own standards about what level of credits are awarded to a student based on their AP exam score. Most higher education gives credits for scores of 4 or 5. Some schools also give credits for scores of 3. High schools give credits towards graduation to students who take the school's AP class. At Big Spring High School 70% of students who took an AP course earned a 3 or better on the exam.

Special & Gifted Education

Big Spring School District has established and implements procedures to identify, locate and evaluate all children who need special education programs and services because of the child’s disability. Big Spring School District provides free parent training on special education topics at least 4 times per school year through a joint effort with several neighboring School Districts.

Special Education Individual education Program (IEP) and Gifted IEP (GIEP)

An IEP or GIEP is a written plan for an exceptional/gifted students’ education. The plan is developed by a team that includes the students’ parents, a regular education teacher, a special education teacher, a school district administrator, a school counselor, any other professionals who may have relevant input, and, when appropriate, the student. In addition to goals, the IEP/GIEP will also include a list of specially designed instruction and related services to be provided for the student; a statement that explains the extent to which the child will take part in a regular educational program; the dates for beginning and reviewing the IEP/GIEP; and in some cases the IEP may also include objectives. If a student is not making progress toward reaching the goals in his/her program, or if there is a change in the special services received, a revision of the IEP/GIEP may be needed. The child’s IEP/GIEP must be reviewed once a year. Parents will have the opportunity to discuss their child’s progress at a conference with District members of the team.

EDUCATIONAL PROGRAM

Extra Curricular Activities

The Big Spring School District offers students a wide variety of extracurricular activities. In addition to over 20 academic, cultural, and community organizations, including band and choir for grades 4-12, the district offers a competitive athletic program.

Middle school interscholastic athletics include cheerleading, field hockey, volleyball, wrestling, and boys and girls basketball. The high school JV and varsity sports include baseball, boys and girls basketball, field hockey, cheerleading, football, softball, soccer, swimming & diving, track, cross country, volleyball, and wrestling. Big Spring is a member of the Mid-Penn Conference.

Wellness Policy

Big Spring School Board established a district wellness policy in 2006 - Policy 246. The policy deals with nutritious meals served at school, the control of access to some foods and beverages during school hours, age appropriate nutrition education for all students, and physical education for students K-12. The policy is in response to state mandates and federal legislation

The Big Spring School District provides both the federal free School Breakfast and federal free School Lunch programs. All students attending the school can eat breakfast and lunch. Children from families with incomes at or below 130 percent of the federal poverty level are provided a breakfast and lunch at no cost to the family. Children from families with incomes between 130 and 185 percent of the federal poverty level can be charged no more than 30 cents per breakfast. A foster child whose care and placement is the responsibility of the State or who is placed by a court with a caretaker household is eligible for both a free breakfast and a free lunch. Runaway, homeless and Migrant Youth are also automatically eligible for free meals.

In Big Spring School District provides health services as mandated by the Commonwealth and the federal government. Nurses are available in each building to conduct annual health screenings (data reported to the PDE and state Department of Health) and to dispense prescribed medications to students during the school day. Nurses also monitor each child's weight.

BUILDING CAPACITY

Capacities of the Schools

The educational programs offered in schools today require flexible and varied spaces. Depending on the program usage, spaces may have different capacities even though they may be similar in size.

The capacity for each space is determined by:

- Maximum class size guidelines or policies from the School Board or recommendations of the Pennsylvania Department of education.
- Specialized programs such as kindergarten and special education.
- Spaces which are used for all students for specialized instruction, such as art or music on the elementary level; or specialized services such as reading support or instructional support team (IST), are not counted as part of the instructional capacity of a building.
- Spaces which fall below the PDE recommended classroom size of 660 square feet are not counted as part of the instructional capacity of the facility.
- Current space utilization.

Historically school districts throughout North America have determined the capacity of school by counting the number of classrooms in a building and multiplying by an average class size. In facility planning terminology we have used the term, "design capacity", to describe this methodology. Even though at first glance this seems only to be common sense, this methodology does not take into account the programmatic implications of school facilities.

- In an elementary school there is a need for libraries/media centers, administrative areas, special education classrooms, and specialized spaces for specific program areas such as science, art and music.
- In a secondary school, in theory it may be possible to use every classroom every period of every day, but from a practical perspective it is not likely. In facility planning terminology, taking program issues into consideration, we use the term, "functional capacity".
- PDE applies a 90% utilization factor to the rated Full Time Equivalent (FTE) for secondary schools and allows for no utilization factor at the elementary level. This calculation is, in large part, related to financial reimbursement calculations rather than educational programming.
- CEFPI (Council of Educational Facilities Planners International) recommends a 90% utilization factor for elementary schools, an 85% utilization factor for middle schools and a utilization factor of 80% for high school facilities.
- For long range planning purposes, CRA recommend using the CEFPI recommended utilization factors for determining building capacity.

Capacities of the Schools

Public schools use space in school buildings for special purposes such as community activities or district-wide special education programs when space is available in a building. The location of this type of program impacts the number of students the building can accommodate. For planning purposes, functional capacity assumes these special programs could be moved to another location. Therefore functional capacity is defined as the number of students the building can accommodate assuming a "traditional" educational program. The formula used for determining capacity should reflect the programs of the public schools yet should be kept simple for planning purposes. The method for determining functional capacity is different for elementary, middle and high schools.

- For long range planning purposes CRA recommends that the elementary utilization factor be calculated at 90% of the PDE capacity and 85% of the PDE capacity at the Middle School Level. Due to the use of block scheduling at the High School, CRA recommends an 85% utilization factor be applied to the PDE Capacity

Capacities analyzed specific to the study:

School	PDE Capacity	Utilization	Functional Capacity
Newville Elementary School	**450**	95%	**428**
Oak Flat Elementary School	**700**	95%	**665**
Mount Rock Elementary School	**375**	95%	**356**
Elementary Sub-total	**1,525**		**1,449**
Big Spring Middle School	**914**	85%	**864**
Big Spring High School	**1,541**	80%	**1,382**
Secondary Sub-total	**2,455**		**2,246**
DISTRICT TOTAL	**3,980**		**3,695**

Building Capacity & Enrollment

CAPACITY / ENROLLMENT BASED UPON EXISTING CONDITIONS

BIG SPRING SCHOOL DISTRICT
FEASIBILITY STUDY
June, 2015

CR

EDUCATIONAL FACILITIES - CAPACITY & ENROLLMENT ANALYSIS

		EXISTING					PROJECTED		
SCHOOL		PDE CAPACITY	FUNCTIONAL CAPACITY	CURRENT (Oct 2014)	+ / - (PDE)	+ / - (FC)	HIGHEST PROJECTED ENROLLMENT THROUGH 2024-25**	+ / - (PDE)	+ / - (FC)
School	Grade Level								
ELEMENTARY									
Newville Elementary	K-5	450	428	363	87	65			
Oak Flat Elementary	K-5	700	665	431	269	234			
Mount Rock Elementary	K-5	375	356	366	9	-10			
		1,525	**1,449**	**1,160**	**365**	**289**	1,291	234	158
SECONDARY									
Big Spring Middle School	8-12	914	864	648	266	216	602	312	262
Big Spring High School	9-12	1554	1382	855	699	527	895	659	487
		2,468	**2,246**	**1503**	**965**	**743**	1,497	971	749
DISTRICT TOTAL		**3,993**	**3,695**	**2,663**	**1,330**	**1,032**	2,788	1,205	907

** Based upon figures from the PDE enrollment projections, revised 7/2012

Notes:

1. The school district has sufficient capacity at the elementary and secondary level to meet the maximum projected enrollment figure through 2024-25.

Building Capacity & Enrollment

PDE ELEMENTARY ROOM SCHEDULE FOR PROJECT BUILDING

District/AVTS:	Project Name:	Grades:
Big Spring School District	Newville Elementary School	K - 5

		CURRENT BUILDING UTILIZATION CAPACITY									
		EXISTING				NEW				TOTAL	
#1	#2	#3	#4	#5	#6	#7	#8	#9	#10	#11	#12
NAME OF SPACE	UNIT CAP	UNIT AREA SQ FT	NUMBER OF UNITS	TOTAL AREA SQ FT	TOTAL FTE	UNIT AREA SQ FT	NUMBER OF UNITS	TOTAL AREA SQ FT	TOTAL FTE	TOTAL AREA SQ FT	TOTAL FTE
LIBRARY	**XXX**		**1.0**		**XXXX**				**XXXX**		**XXXXX**
HALF-TIME KINDRGRTN	**50**										
HALF-TIME KINDRGRTN	**50**										
PRE-K	**		**1.0**								
FULL-TIME KINDRGRTN	**25**		**3.0**		**75**						**75**
HALF-TIME KINDRGRTN	**50**										
FULL-TIME KINDRGRTN	**25**										
REG CLSRM 660+ SQ FT	**25**		**15.0**		**375**						**375**
READING RESOURCE ROOM	**										
MATH RESOURCE ROOM	**										
TITLE ONE CLASSROOM	**										
SPECIAL EDUCATION CLASSROOM	**		**2.0**								
READING	**		**1.0**								
SMALL GROUP (Band Room)	**		**1.0**								
ART ROOM	**		**1.0**								
MUSIC ROOM	**		**1.0**								
COMPUTER ROOM	**		**1.0**								
FACULTY ROOM	**		**1.0**								
GYMNASIUM	**										
MULTI-PURPOSE ROOM	**		**1.0**								
STAGE	**		**1.0**								
TITLE I READING	**		**2.0**								
TOTAL PDE RATED BUILDING CAPACITY (1)											**450**
RECOMMENDED MS/SEC UTILIZATION (BLDG TOTAL X .95)											**428**

NOTES:

** These spaces do not receive rated capacity for an elementary school per PDE calculations

(1) PDE Rated Building Capacity is calculated for determining reimbursement and does not necessarily reflect the maximum capacity of the school building. Class size and the number of special education and pull-out instructional spaces will affect and determine the actual building capacity

Building Capacity & Enrollment

PDE ELEMENTARY ROOM SCHEDULE FOR PROJECT BUILDING

District/AVTS:	Project Name:	Grades:
Big Spring School District	Oak Flat Elementary School	K - 5

		CURRENT BUILDING UTILIZATION CAPACITY									
		EXISTING				NEW				TOTAL	
#1	#2	#3	#4	#5	#6	#7	#8	#9	#10	#11	#12
NAME OF SPACE	UNIT CAP	UNIT AREA SQ FT	NUMBER OF UNITS	TOTAL AREA SQ FT	TOTAL FTE	UNIT AREA SQ FT	NUMBER OF UNITS	TOTAL AREA SQ FT	TOTAL FTE	TOTAL AREA SQ FT	TOTAL FTE
LIBRARY	XXX		1.0								
HALF-TIME KINDRGRTN	50		2.0		100						100
HALF-TIME KINDRGRTN	50										
HALF-TIME KINDRGRTN	50										
FULL-TIME KINDRGRTN	25										
FULL-TIME KINDRGRTN	25										
FULL-TIME KINDRGRTN	25										
REG CLSRM 660+ SQ FT	25		24.0		600						600
	**										
PRE-SCHOOL CLASSROOM	**										
SPECIAL EDUCATION RESOURCE RM	**		1.0								
SPECIAL EDUCATION CLASSROOM	**		3.0								
SCIENCE LAB / CLASSROOM	**										
CONFERENCE ROOM			1.0								
ITINERANT	**		2.0								
ART ROOM	**		1.0								
MUSIC PRACTICE	**		1.0								
MUSIC ROOM	**		1.0								
COMPUTER LAB	**		1.0								
FACULTY ROOM	**		1.0								
FACULTY PLANNING	**		1.0								
GYMNASIUM	**										
MULTI-PURPOSE ROOM	**		1.0								
CAFETERIA	**										
STAGE	**		1.0								
TOTAL PDE RATED BUILDING CAPACITY (1)											700
RECOMMENDED MS/SEC UTILIZATION (BLDG TOTAL X .95)											665

NOTES:

** These spaces do not receive rated capacity for an elementary school per PDE calculations

(1) PDE Rated Building Capacity is calculated for determining reimbursement and does not necessarily reflect the maximum capacity of the school building. Class size and the number of special education and pull-out instructional spaces will affect and determine the actual building capacity

Building Capacity & Enrollment

PDE ELEMENTARY ROOM SCHEDULE FOR PROJECT BUILDING

District/AVTS:	Project Name:	Grades:
Big Spring School District	Mount Rock Elementary School	K - 5

		CURRENT BUILDING UTILIZATION CAPACITY									
		EXISTING				NEW				TOTAL	
#1	#2	#3	#4	#5	#6	#7	#8	#9	#10	#11	#12
NAME OF SPACE	UNIT CAP	UNIT AREA SQ FT		TOTAL AREA SQ FT	TOTAL FTE	UNIT AREA SQ FT	NUMBER OF UNITS	TOTAL AREA SQ FT	TOTAL FTE	TOTAL AREA SQ FT	TOTAL FTE
LIBRARY	XXX		1.0								
HALF-TIME KINDRGRTN	50										
HALF-TIME KINDRGRTN	50										
HALF-TIME KINDRGRTN	50										
FULL-TIME KINDRGRTN	25		3.0		75						75
FULL-TIME KINDRGRTN	25										
FULL-TIME KINDRGRTN	25										
REG CLSRM 660+ SQ FT	25		15.0		375						375
	**										
PRE-SCHOOL CLASSROOM	**										
SPECIAL EDUCATION RESOURCE RM	**										
SPECIAL EDUCATION CLASSROOM	**		2.0								
SPEECH	**		1.0								
CONFERENCE ROOM											
ITINERANT	**		3.0								
ART ROOM	**		1.0								
READING	**		2.0								
MUSIC ROOM	**		1.0								
COMPUTER LAB	**		1.0								
FACULTY ROOM	**		1.0								
FACULTY PLANNING	**		1.0								
GYMNASIUM	**		1.0								
MULTI-PURPOSE ROOM	**										
CAFETERIA	**										
STAGE	**		1.0								
TOTAL PDE RATED BUILDING CAPACITY (1)											375
RECOMMENDED MS/SEC UTILIZATION (BLDG TOTAL X .95)											356

NOTES:

** These spaces do not receive rated capacity for an elementary school per PDE calculations

(1) PDE Rated Building Capacity is calculated for determining reimbursement and does not necessarily reflect the maximum capacity of the school building. Class size and the number of special education and pull-out instructional spaces will affect and determine the actual building capacity

Building Capacity & Enrollment

PDE SECONDARY ROOM SCHEDULE FOR PROJECT BUILDING

District/AVTS:	Project Name:	Grades:
Big Spring School District	Big Spring Middle School	7 - 8

SCHOOL: **Big Spring Middle School**

#1	#2	#3	#4	PRESENT	
NAME OF SPACE	UNIT CAP	NO. OF UNITS	TOTAL FTE		
LIBRARY	XXX	1			
REG CLSRM 660+ SQ FT	25	23	575		
LEARNING SUPPORT CLASSROOM	XXX	6			
SPECIAL EDUCATION RESOURCE ROOM	XXX	1			
LIFE SKILLS	XXX	1			
GIFTED	XXX	1			
EMOTIONAL SUPPORT	XXX	1			
SCIENCE CLASSROOM	25	5	125		
SCIENCE LAB	20	3	60		
LGI	XXX	1			
COMPUTER LAB	20	2	40		
TV STUDIO	XXX	1			
FACULTY DINING	XXX	1			
TEAM ROOM	XXX	3			
BAND ROOM	25	1	25		
MUSIC CLASSROOM	25	1	25		
CHORAL ROOM	25				
AUDITORIUM / STAGE	XXX	1			
FAMILY/CONSMR SCIENCE	20	2	40		
IA/SHOP 1800+ SQ FT	20	1	20		
TECH ED 1800+ SQ FT	20	2	40		
GYM 6500-7500 SQ FT	66	1	66		
WRESTLING ROOM	XXX	1			
LOCKER ROOMS	XXX	2			
KITCHEN	XXX	1			
CAFETERIA / COMMONS	XXX	1			
OTHER:					
BUILDING TOTAL	XXX	XXXXXX	1,016	XXXXXX	
MS/SEC UTILIZATION (BLDG TOTAL X .9)	XXX	XXXXXX	914	XXXXXX	
RECOMMENDED MS/SEC UTILIZATION (BLDG TOTAL X .85)	XXX	XXXXXX	864	XXXXXX	

NOTES:

(1) PDE assigns a "Utilization Factor" of .9 to the Building Total to generate a total capacity calculation. As described in this section of the report, CRA recommends that a .85 utilization factor be used, which would create a more realistic capacity figure of 864 after calculating the .85 utilization factor

Building Capacity & Enrollment

PDE SECONDARY ROOM SCHEDULE FOR PROJECT BUILDING

District/AVTS: Big Spring School District

Project Name: Big Spring High School 9 - 12

SCHOOL: Big Spring High School

#1	#2	#3	#4	PRESENT	
NAME OF SPACE	UNIT CAP	NO. OF UNITS	TOTAL FTE		
LIBRARY	XXX	1			
REG CLSRM 660+ SQ FT	25	31	775		
GIFTED	XXX	1			
SPECIAL EDUCATION CLSRM	XXX	2			
SPECIAL EDUCATION RESOURCE RM	XXX	2			
SCIENCE CLSRM 660+ SQ FT	25	9	225		
SCIENCE LAB	20	4	80		
LGI	XXX	1			
BUSINESS CLSRM 660+	25	2	50		
BUSINESS LAB	20	4	80		
COMPUTER LAB	20	2	40		
TV INSTRUCTIONAL STUDIO	20	1	20		
ART CLASSROOM	20	4	80		
MUSIC CLASSROOM	25				
BAND ROOM	25	1	25		
ORCHESTRA ROOM	25				
CHORAL ROOM	25	1	25		
FAMILY/CONSMR SCIENCE	20	2	40		
TECH ED CR	25				
TECH ED 1800+ SQ FT	20	3	60		
VO-AG SHOP /CR	20	1	20		
VO-AG CLASSROOM	25	1	25		
INSTRUCTIONAL PLANNING CENTER	XXX	2			
SEMINAR ROOMS (SGI)	XXX	5			
FACULTY DINING	XXX	1			
AUDITORIUM / STAGE	XXX	1			
GYM 6500-7500 SQ FT	66	2	132		
LOCKER ROOMS	XXX	2			
CAFETERIA / KITCHEN	XXX	1			
HEALTH CLASSROOM	25	2	50		
NATATORIUM					
TEAM LOCKER ROOMS	XXX	2			
ADAPTIVE GYM	XXX	1			
OTHER: ALTERNATIVE EDUCATION	XXX	1			
BUILDING TOTAL	XXX	XXXXXX	1,727	XXXXXX	
MS/SEC UTILIZATION (BLDG TOTAL X .9)	XXX	XXXXXX	1,554	XXXXXX	
RECOMMENDED MS/SEC UTILIZATION (BLDG TOTAL X .80	XXX	XXXXXX	1,382	XXXXXX	

NOTES:

(1) PDE assigns a "Utilization Factor" of .90 to the Building Total to generate a total capacity calculation. As described in this section of the report, CRA recommends that a .80 utilization factor be used, which would create a more realistic capacity figure of 1,382 after calculating the .80 utilization factor

BUILDING CAPACITY & ENROLLMENT

Conclusion

The Big Spring School District has adequate capacity in its schools for the foreseeable future. A review of the cohort survival projections indicates that the school district will continue a pattern of slight decline for the immediate future, with trend beginning to reverse towards the end of the projection period. The enrollment will remain relatively “flat” in terms of overall increase in total student population; however there will be fluctuations among grade levels. The School District should continue to monitor and evaluate future enrollment trends, including birth rates and grade progression ratios.

As a planning tool, it is recommended that for planning purposes for any school construction project that the School District undertakes, the enrollment figure of the current enrollment, plus 10% be utilized, which is the maximum figure that the Department of Education will allow for full reimbursement purposes.

SECTION 3 - FACILITIES

Crabtree, Rohrbaugh & Associates
Architects
401 East Winding Hill Road
Mechanicsburg, Pennsylvania 17055
phone: (717) 458-0272 - fax: (717) 458-0047

FACILITY OVERVIEW

Building	Construction Date	Size	Grade Level
Newville Elementary School	(1963) 2007, 2010	43,340 SF	K-5

Location 100 Steelstown Road
Newville, PA 17241

Site Size 10.2 acres

Student Capacity
- PDE Capacity *450*
-Functional Capacity *428*

Student Enrollment Approx 353

Municipal Jurisdiction: Borough of Newville / North Newton Township

Occupancy Group Group 'B' Educational

Construction Type Non-Combustible

Applicable Building Codes:

- PA Uniform Construction Code (UCC):
  International Existing Building Code / 2009
  International Building Code / 2009 Excluding Chapters 1, 11 & 30
  International Building Code / 2012 Chapter 11 & Appendix 'E'
  National Electric Code–2008
  International Energy Conservation Code 2009 or 2007 ASHRAE 90.1
  International Fire Code 2009
  International Fuel Gas Code 2009
  International Mechanical Code 2009
  International Plumbing Code 2009
  International Urban-Wildland Interface Code 2009

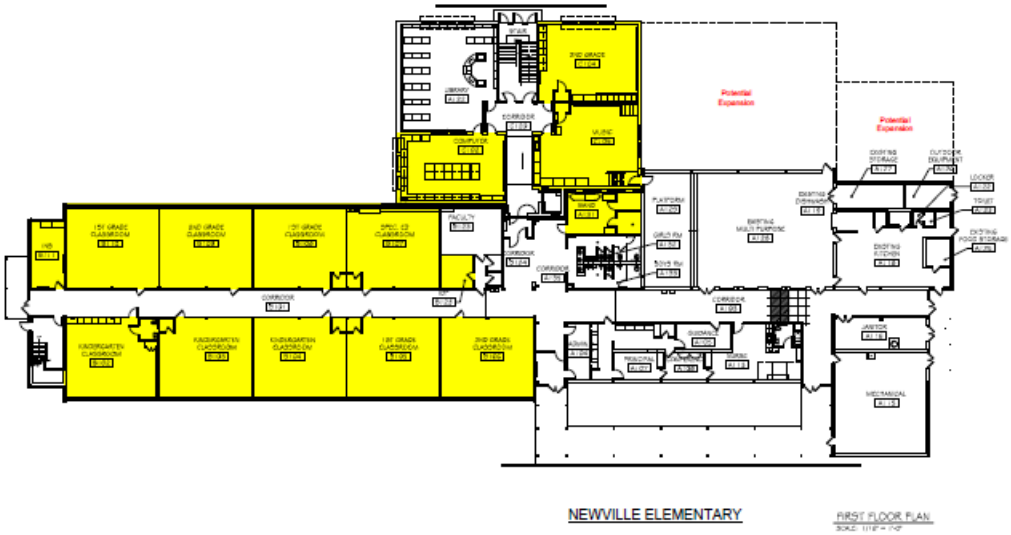
- 2010 ADA Standards

FACILITY OVERVIEW

Aerial Site View

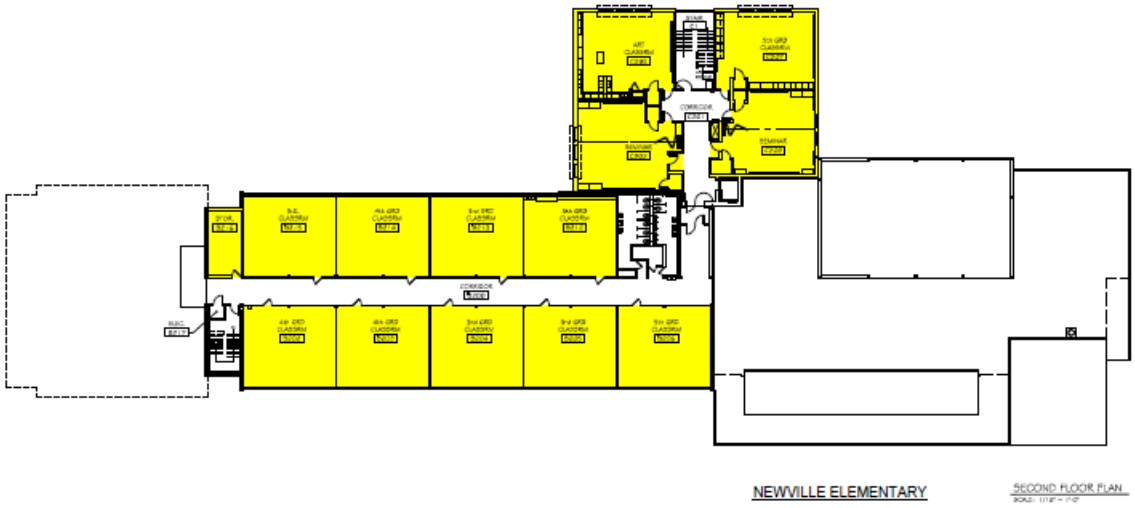
FACILITY OVERVIEW

Existing First Floor Plan



***Highlighted areas indicate instructional classrooms*

Existing Second Floor Plan



***Highlighted areas indicate instructional classrooms*

FACILITY OVERVIEW

Building

The Newville Elementary School was originally constructed in 1963. HVAC and electrical renovations project was completed in 2007 as an Act 57 guaranteed energy performance contract. A small classroom addition was completed in 2010 as a non-reimbursable project under PDE guidelines. Recent capital improvements include upgrades to the security system, fire alarm system and the roof. The building is a combination of one and two story construction, with exterior brick veneer and some "dryvit" window infill panels. The building structural system is steel framing.

Site

The school is located in the Borough of Newville, on a gently sloping site, in a residential area. School buses enter the site from West St., at the rear and drop off the students along the back of the building. Buses exit the site onto Steelstown Road. Parent drop-off and visitor parking is located on the front side of the building, and staff parking is located on the east side of the school. The service and delivery area is located on the west side, adjacent to the kitchen. The site is well drained and landscaped and offers hard play, soft play and recreational space.
The building has a main east-west corridor and an intersecting north-south corridor at the 2010 addition. Expansion is possible, but limited by adjacent underground geo-thermal well fields.

Program Spaces

The school is an original 1960's design. The educational delivery model has been evolving and more recently, has changed significantly in an increasingly technological society. The original spaces are no longer sufficient in and of themselves to facilitate the delivery of 21st century, collaborative based education. Small group, pull-out and collaborative student space is needed, as well as other improvements including additional storage, and improvements to the cafeteria and faculty support spaces.

Codes and Constraints

The current building is code compliant, with some areas "grandfathered" by pre-existing codes. If the facility were to undergo renovations; code related renovations including ADA, life-safety and ventilation improvements will be required. Additionally, the building would either need to be sprinklered, or separated into
smaller, compartmentalized fire areas to meet current code requirements. Storage within the stair towers should be removed.

Building Systems

HVAC System

- A 2007 renovation project converted a majority of the building to a ground source heat pump system. The 2-pipe system only allows either hot water or chilled water in the main loop. An addition was installed in 2009 and a second geothermal bore field was installed. An underground fuel oil tank is installed.

Plumbing System

- The plumbing fixtures and piping installed in the 2009 addition are in good condition.
- Domestic hot water for the entire building is provided by an oil fired water heater.
- Public water and sewer is provided.
- Natural gas is not available.
- The domestic water piping, sanitary piping and storm sewer piping for the 1963 building is original.
- The building is not protected with a fire suppression sprinkler

Electrical System

- New switchgear was installed in the 2007 project and also feeds the 2009 addition.
- T5 lighting is provided as part of the 2007 and 2009 projects. LED lighting is installed in the Multi-Purpose room.
- There is a mixture of new and original electrical panels installed throughout.
- The phone and sound systems are operated through the computer system. The security, fire alarm and camera systems are currently being upgraded.

Overall Recommendations

Overall, the school is in fair - good condition. The lifespan of the major building components and operational systems is in the 15-20 year range, the original building area should be renovated, with additions considered to address identified Program related needs. The 2007 HVAC system should be replaced to allow for simultaneous heating and cooling operation and improved comfort and control.

FACILITY OVERVIEW

Summary of Physical Plant Recommendations:

A. SITE

1. Code Compliance / Safety

- Consider connecting bus lane to Greenspring Road, to divert bus traffic from the downtown area.
- Consider providing accessible parking spaces closer to the main entrance.
- Consider alternatives to remove the exterior wood structure storage buildings, located on the west side of the building.
- Provide dumpster area, with enclosure around trash dumpsters.
- Consider reconfiguration of service area to improve maneuverability and safety.
- Replace existing chain fence at bus drop-off lane with a more permanent swing-arm gate.

2. Physical Plant

- Overseed bare lawn areas.
- Consider adding additional concrete curbing to protect grass islands and lawn areas at circulation routes.
- Add protected, grounded electrical outlets to several of the exterior light pole bases, for use by special events.

B. BUILDING

1. Code Compliance / Safety

- Provide ADA upgrades to all non-compliant toilet rooms. .
- Install new ADA interior room and directional signage.
- Replace all non-ADA compliant door hardware.
- Remove and replace all asbestos containing materials.
- Install emergency generator system.
- Remove storage from stair towers.
- Provide ADA access to stage from within multi-purpose room.

2. Physical Plant

Exterior:

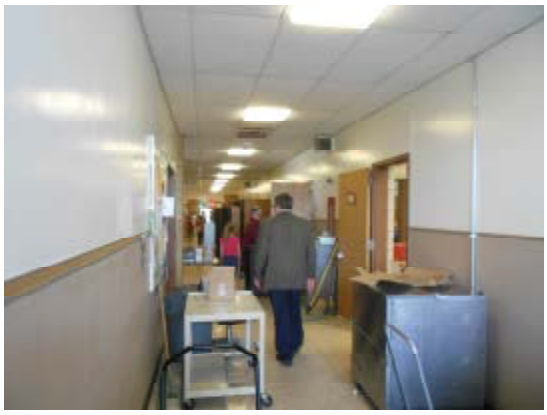
- Replace exterior doors/hardware on original section of building. .
- Replace exterior windows on original section of building
- Replace deteriorated exterior joints and sealants.

Interior:

- Provide new ceilings in renovated areas.
- Provide interior partition demolition and reconstruction as required to meet the educational program modifications as well as renovation/addition options.
- Replace existing floor finishes throughout as warranted.
- Paint the building in renovated areas. .
- Replace/upgrade built in casework and equipment in renovated areas.
- Replace marker and/or tack boards as warranted.
- Replace window shades / blinds.
- Provide new toilet partitions and accessories for renovated toilet rooms.

FACILITY OVERVIEW

Newville Elementary School
Existing Photographs


Corridor outside Kitchen


Corridor outside Cafeteria


Entrance lobby


Original building section – Corridor


Multi-Purpose Room


Kitchen

FACILITY OVERVIEW

Newville Elementary School
Existing Photographs


Storage in Stairtower


Title 1 Reading – Original Storage Room

Non ADA compliant water coolers


Non ADA compliant Toilet Room


Faculty Room


Non-ADA Faculty Toilet

FACILITY OVERVIEW

Building	Construction Date	Size	Grade Level
Oak Flat Elementary School	(1992)	43,340 SF	K-5

Location	334 Centerville Road Newville, PA 17241
Site Size	17 acres
Student Capacity	
- PDE Capacity	*700*
-Functional Capacity	*665*
Student Enrollment	Approx 431
Municipal Jurisdiction:	West Pennsboro Township
Occupancy Group	Group 'B' Educational
Construction Type	Non-Combustible

Applicable Building Codes:

- PA Uniform Construction Code (UCC):
  International Existing Building Code / 2009
  International Building Code / 2009 Excluding Chapters 1, 11 & 30
  International Building Code / 2012 Chapter 11 & Appendix 'E'
  National Electric Code–2008
  International Energy Conservation Code 2009 or 2007 ASHRAE 90.1
  International Fire Code 2009
  International Fuel Gas Code 2009
  International Mechanical Code 2009
  International Plumbing Code 2009
  International Urban-Wildland Interface Code 2009

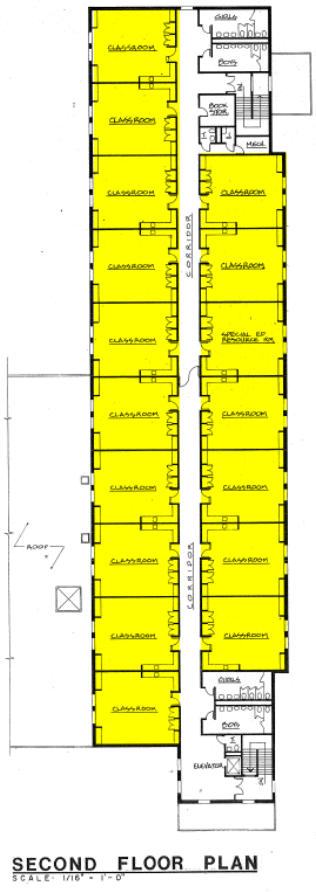
- 2010 ADA Standards

FACILITY OVERVIEW

Aerial Site View

FACILITY OVERVIEW

Existing Floor Plans



***Highlighted areas indicate instructional classrooms*

FACILITY OVERVIEW

Building

The Oak Flat Elementary School was constructed in 1992 and the building overall, is in very good condition. Recent improvements have included the installation of a new HVAC system, LED interior lighting, new fire alarm system, new roofing system and replacement of the folding partition in the Multipurpose Room. The school was designed prior to the implementation of the 1990 ADA requirements. As such, there are some ADA improvements that are recommended. An ADA audit should be performed to identify the full recommended scope of accessibility related work.

Site

The school is located in West Pennsboro Township, on a relatively level site, adjacent to the Heishman Softball Complex. School buses enter the site from Centerville road and drop-off and pick-up students at the front of the building, on the north side. Parents also enter the site from Centerville Road and enter the parent drop-off loop on the west side of the building. A site work project is planned for the summer of 2015, to separate the bus and vehicular traffic totally. Visitor parking is located on the front side of the building, and staff parking is located on the west side of the school, adjacent to the parent drop-off loop. The service and delivery area and a small amount of parking are separate and located on the east side of the building. The site is well drained and landscaped and offers an ample amount of hard play, soft play and recreational space.

The main east-west corridor connects the administration offices, main entrance, Library and Gymnasium spaces, and is intersected with a two story classroom wing, running n the north-south direction. Physical expansion of the existing building would be possible.

Program Spaces

The building could use additional space for itinerant services, due to the special education needs within the building. Additional bathrooms to accommodate more intensive special education needs should be considered. The school was designed in the 1990's, and as such, does not support the best practices planning for student collaboration or project-based learning spaces that a modern middle school would typically have in today's environment. Similarly, the Library should be developed into more of a learning commons / technology center of r the schools, allowing more access to digital tools and resources for the students.

Codes and Constraints

The building is code compliant, having been designed to meet the building codes at the time of its original construction. Recent improvements have been designed to meet current building codes. If improvements are to occur in the future, a detailed code analysis will have to be performed, inasmuch as the existing building is not sprinklered, and any additional square footage would need to be checked against the allowable square footage for this building type, to determine what code required improvements would be necessary.

Building Systems

HVAC:

- The HVAC System for this building utilizes a 4 pipe system, hot water heating, with a chiller plant. Hot water is heated by gas fired boilers. Fresh air system is introduced via a rooftop unit and a separate system.

Plumbing:

- Plumbing fixtures are original to the building and in good condition. The building is not protected with a fire suppression sprinkler system.

Electrical:

- The main service equipment & distribution panels are original to the building and in good condition. LED lighting has been installed in all classrooms and the second floor is entirely LED lighting.

Technology:

- Instructional technology includes smart boards and LCD projectors. Wireless technology is provided via access points above corridor ceiling. Enhancements to the current technology system to keep pace with district standards are ongoing.

Overall Recommendations

Overall, the school is in good condition. The lifespan of the major building components and operational systems is in the 15-20 year range, while some system components, as well as finishes and equipment are in need of ongoing maintenance.

FACILITY OVERVIEW

Summary

Current Projects listed in the March 2, 2015 Facilities Master Plan update:

- Repave parking lot, and re-design bus parking and parent pick-up parking.
- Masonry and sealant inspection and repairs.

Physical Plant Recommendations:

- Provide ADA accessible compliant interior door hardware.
- Provide ADA compliant interior room identification and directional signage.
- Complete an ADA audit and develop list of prioritized recommendations.
- Ongoing repair / replacement of interior finishes and casework as required.
- Consider alternatives to address Program related issues as identified in the facility summary.

FACILITY OVERVIEW

Building	Construction Date	Size	Grade Level
Mount Rock Elementary School	(1968) 1974	68,500 SF	K-5

Location	47 Mount Rock Road Newville, PA 17241
Site Size	20 acres* *(shared campus w/ Middle School)
Student Capacity	
- PDE Capacity	*375*
-Functional Capacity	*356*
Student Enrollment	Approx 366
Municipal Jurisdiction:	West Pennsboro Township
Occupancy Group	Group 'B' Educational
Construction Type	Non-Combustible

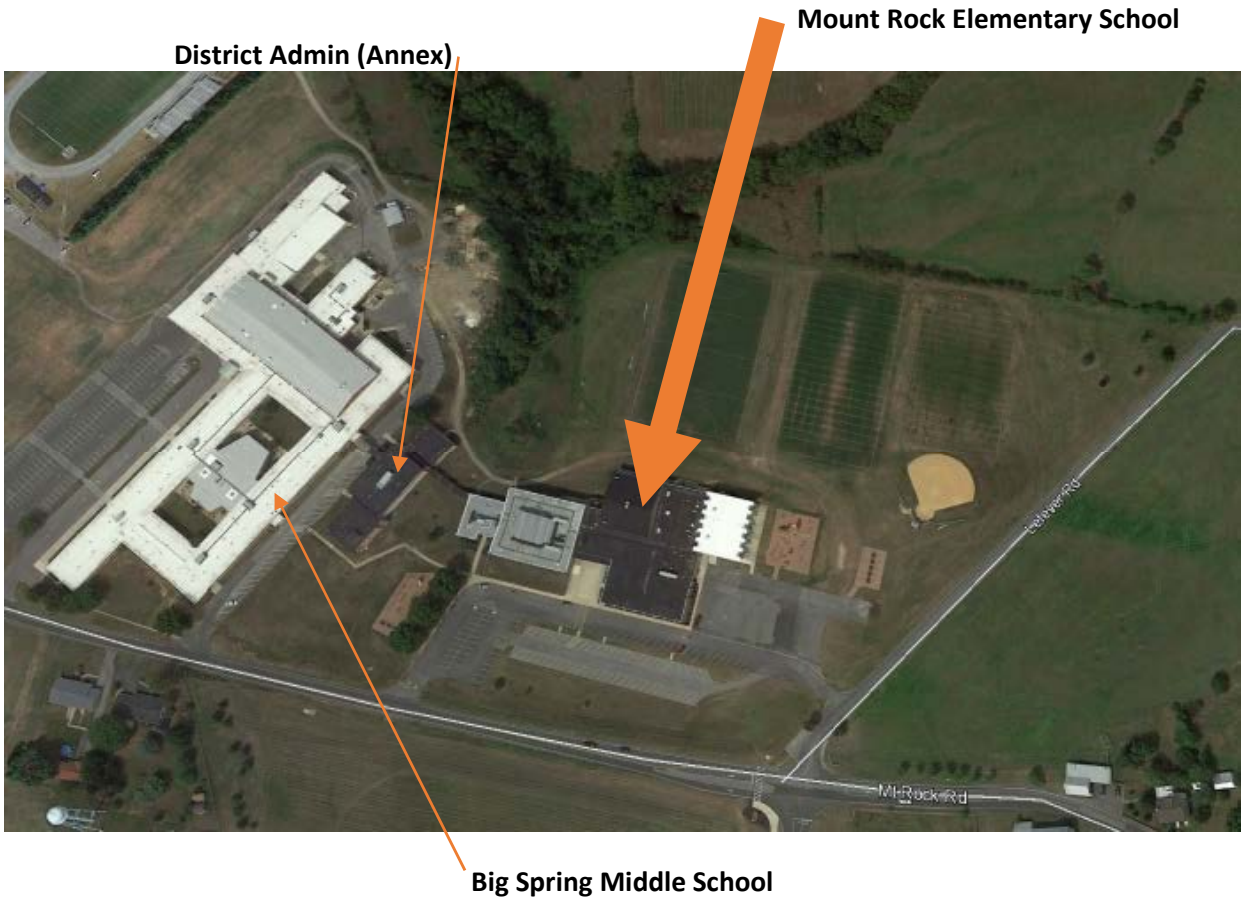
Applicable Building Codes:

- PA Uniform Construction Code (UCC):
  International Existing Building Code / 2009
  International Building Code / 2009 Excluding Chapters 1, 11 & 30
  International Building Code / 2012 Chapter 11 & Appendix 'E'
  National Electric Code–2008
  International Energy Conservation Code 2009 or 2007 ASHRAE 90.1
  International Fire Code 2009
  International Fuel Gas Code 2009
  International Mechanical Code 2009
  International Plumbing Code 2009
  International Urban-Wildland Interface Code 2009

- 2010 ADA Standards

FACILITY OVERVIEW

Aerial Site View



FACILITY OVERVIEW

Existing Floor Plans

MT. ROCK ELEMENTARY

***Highlighted areas indicate instructional classrooms*

FACILITY OVERVIEW

Building

The Mount Rock Elementary School was constructed in 1968 as the original Big Spring Middle School. Overall, the building is in good condition. Connected to the elementary school via an enclosed corridor, is the "Annex" building, which currently houses the School District Administrative Offices. The original Middle school natatorium, was converted to and is used by the High School as Wrestling and Fitness Center facilities, including locker rooms. Recent improvements have included the installation of a new geo-thermal HVAC system and the renovation of the Annex portion into the district administration offices. The school was designed prior to the implementation of the 1990 ADA requirements. As such, there are some ADA improvements that are recommended. An ADA audit should be performed to identify the full recommended scope of accessibility related work.

Site

The school is located in West Pennsboro Township, on a sloped site, which is part of an overall 70 acre site, which includes the adjacent Big Spring Middle School. School buses enter the site from Lefever Road and drop-off and pick-up students at the front of the building, exiting onto Mt. Rock Road. Parents also enter the site from Lefever Road and drop off students at the front of the school as well. Student pick-up occurs at the southeast side of the building in the afternoon. Visitor and staff parking are located on the front side of the building. A site work project is planned for the summer of 2016, to separate the bus and vehicular traffic. The service and delivery area located on the southeast side of the building. The site is well drained and landscaped and offers an ample amount of hard play, soft play and recreational space.

The main east-west corridors connect the one story Kindergarten classroom pod, to the stacked two story classroom pods, which house the remaining grades 1-5. The administration offices are centrally located between the classroom pods, and are adjacent to the Cafeteria and Gymnasium areas, which serves as a hub of activity for the building. The site does allow for the physical expansion of the building.

Program Spaces

The original middle school, tiered Large Group Instruction room, is not of functional use for the elementary school program, nor is an accessible space. This area should be re-purposed for use by the elementary program and the floor should be leveled. Original classrooms, currently used for learning support, are oversized, and could be separated via folding partitions to provide flexibility and be more educationally appropriate to their current use. Additional storage for the gymnasium and administration office areas is needed.

Codes and Constraints

The building is code compliant, having been designed to meet the building codes at the time of its original construction. Recent improvements have been designed to meet current building codes. Future additions and/or renovations would need to consider current codes and a detailed code analysis will have to be performed to determine the extent of any code required improvements.

Building Systems

HVAC:

- The HVAC System for this building utilizes a geo-thermal heat pump system for heating and cooling, installed in 2007. Energy recovery and fresh air units are located on the roof. Hot water is heated by gas fired boilers.

Plumbing:

- Plumbing fixtures are original to the building and in good condition. The building is not protected with a fire suppression sprinkler system.

Electrical:

- The main service equipment & distribution panels are original to the building and in good condition.

Technology:

- Instructional technology includes smart boards and LCD projectors. Wireless technology is provided via access points above corridor ceiling. Enhancements to the current technology system to keep pace with district standards are ongoing.

Overall Recommendations

Overall, the school is in good condition. The lifespan of the major building components and operational systems is in the 15-20 year range, while some system components, as well as finishes and equipment are in need of ongoing maintenance. Program related recommendations should be addressed In order to provide additional capacity at the school and support the educational programs.

FACILITY OVERVIEW

Summary

Current Projects listed in the March 2, 2015 Facilities Master plan update:

- Install new rooftop HVAC unit for locker room area.
- Replace carpet in Library.
- Repave parking lot, and re-design bus parking and parent pick-up parking.
- Remove tiered floor in LGI and divide into classrooms.
- New roof.
- Remove asbestos floor tile and replace with VCT.
- Replace windows.
- Additional storage in gym.
- Additional storage at office area.
- Roof resurfacing (White Knight energy coating), at DAO Annex.

Physical Plant Recommendations:

- Reconfigure front parking, bus and parent drop off areas.
- Complete an ADA audit and develop list of prioritized recommendations.
- Ongoing repair / replacement of interior finishes and casework as required.
- Consider alternatives to address Program related issues as identified in the facility summary.
- Replace existing windows.
- Replace existing roofing system.
- Masonry and sealant inspection and repairs.

FACILITY OVERVIEW

Building	Construction Date	Size	Grade Level
Big Spring Middle School	(1955) 1979, 2005	150,000 SF	6-8

Location 43 Mount Rock Road
Newville, PA 17241

Site Size 50 acres*
*(shared campus w/ Mount Rock ES)

Student Capacity
- PDE Capacity *914*
-Functional Capacity *864*

Student Enrollment Approx. 601

Municipal Jurisdiction: West Pennsboro Township

Occupancy Group Group 'B' Educational

Construction Type Non-Combustible

Applicable Building Codes:

- PA Uniform Construction Code (UCC):
  International Existing Building Code / 2009
  International Building Code / 2009 Excluding Chapters 1, 11 & 30
  International Building Code / 2012 Chapter 11 & Appendix 'E'
  National Electric Code–2008
  International Energy Conservation Code 2009 or 2007 ASHRAE 90.1
  International Fire Code 2009
  International Fuel Gas Code 2009
  International Mechanical Code 2009
  International Plumbing Code 2009
  International Urban-Wildland Interface Code 2009

- 2010 ADA Standards

FACILITY OVERVIEW

Aerial Site View

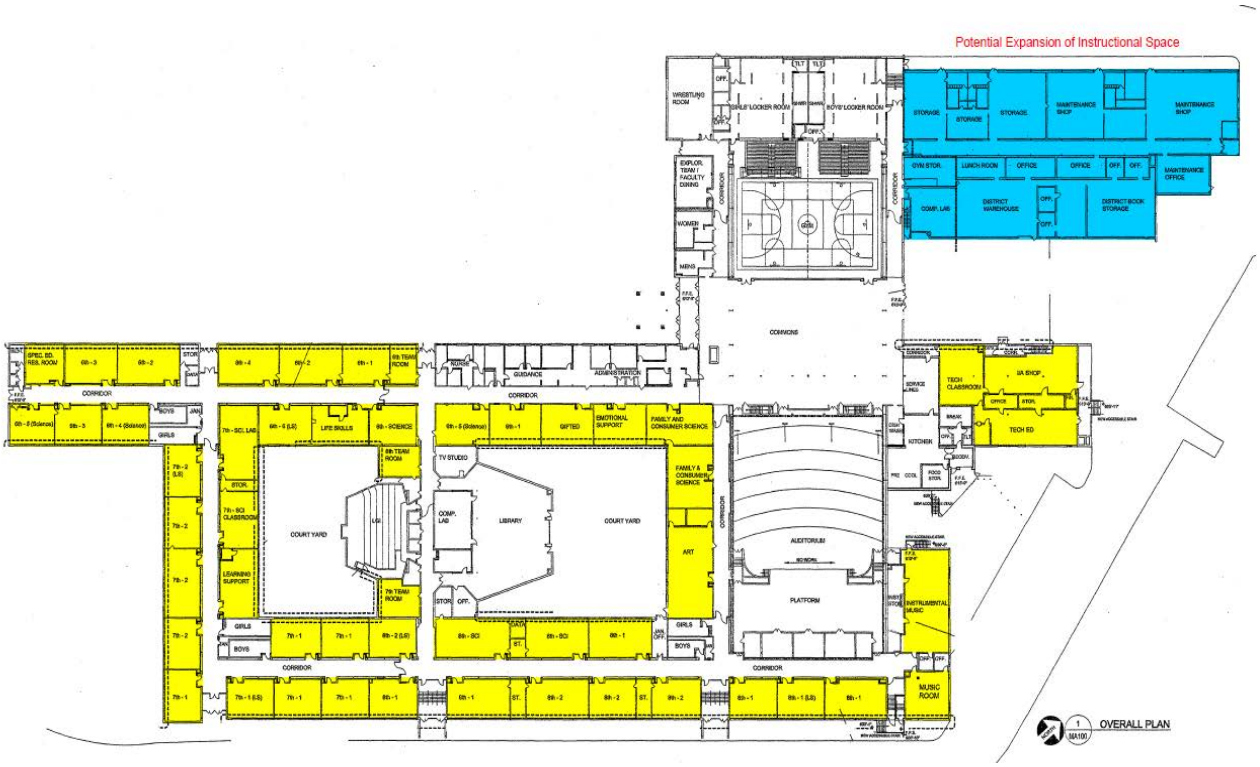
Big Spring Middle School

District Admin (Annex)

Mount Rock ES

FACILITY OVERVIEW

Existing Floor Plans



**Yellow Highlighted areas indicate instructional classrooms*

*** Blue highlighted area indicates potential expansion of instructional space.*

FACILITY OVERVIEW

Building

The Big Spring Middle School was constructed in 1955 as the original Big Spring High School. Overall, the building is in good condition. The Middle school is located adjacent to, and connected via an outdoor canopy, to the "Annex" building, which currently houses the School District Administrative Offices. Recent improvements have included the installation of a new geo-thermal HVAC system, and more recently, new windows. The school was originally designed prior to the implementation of the 1990 ADA requirements. As such, there are some ADA improvements that are recommended. An ADA audit should be performed to identify the full recommended scope of accessibility related work.

Site

The school is located in West Pennsboro Township, on a sloped site, part of an overall 70 acre site, including the adjacent Mount Rock Elementary School. School buses loading and unloading park on the north and south sides of the building.
Parents typically pick up students at the main entrance, on the north side of the building, and exit onto either Schoolhouse or Mt. Rock Road.

District Office and Maintenance staff enter the site on the south side of the Middle School and loop around the building, exiting back onto Mt. Rock Road. Visitor and staff parking are located on the northwest side of the building, adjacent to the main entrance. The service and delivery area is located at the rear of the building, accessed via the circulation loop around the building. The site is well drained and landscaped and offers an ample amount of recreational space. Hard play area does not exist.

Two main classroom wings, run predominantly in the north-south direction, connected with secondary circulation corridors at several locations, creating two internal courtyards. The 1979 additions included a Library and Large Group Room, which infilled a portion of the courtyards. The Cafeteria is located at the main entrance and serves as a Commons and lobby space between the Gymnasium and Auditorium, when not used for dining. The site does allow for some limited expansion of the building. Existing district maintenance and warehousing space, located in a one story wing adjacent to the Auditorium, could be repurposed into educational space, if needed.

Program Spaces

Several spaces were left relatively untouched during the last renovation, including the Auditorium, the Large Group Room, and the Library, and are in need of programmatic improvements to better support and enhance the Middle School program. A student store, located adjacent to the Commons and Auditorium areas would allow for more widespread access and enhance the use. New furniture that better supports student collaboration, teaming and project–based learning opportunities should be considered for the school.

Codes and Constraints

The building is code compliant, having been designed to meet the building codes at the time of its original construction. Recent improvements have been designed to meet current building codes. Future additions and/or renovations would need to consider current codes and a detailed code analysis will have to be performed to determine the extent of any code required improvements.

Building Systems

HVAC:

- The HVAC System for this building utilizes a geo-thermal heat pump system for heating and cooling, installed in 2007. Energy recovery and fresh air units are located on the roof. Hot water is heated by gas fired boilers.

Plumbing:

- Plumbing fixtures are original to the building and in good condition. The building is not protected with a fire suppression sprinkler system.

Electrical:

- The main service equipment & distribution panels are original to the building and in good condition.

Technology:

- Instructional technology includes smart boards and LCD projectors. Wireless technology is provided via access points above corridor ceiling. Enhancements to the current technology system to keep pace with district standards are ongoing.

Overall Recommendations

Overall, the school is in good condition. The lifespan of the major building components and operational systems is in the 15-20 year range, while some system components, as well as finishes and equipment are in need of ongoing maintenance. Program related improvements, as identified in the report, should be addressed as part of capital facility improvements.

FACILITY OVERVIEW

Summary

Current Projects listed in the March 2, 2015 Facilities Master plan update:

- Parking lots – speed hump installation and repair asphalt settlement in main parking lot.
- White Knight roof refurbishment.
- Secondary Cafeteria seating plan.
- Security repair & replace wireless points at MS.
- Gym floor replacement w/ wood floor.
- Brick re-pointing (only portions showing deterioration).
- Replace or refurbish EIFS (dryvit) finish at Library, LGI, and Maintenance Office. Provide new windows at these areas.
- Renovate Auditorium, construct Student Store- remove asbestos floor tile & acoustics, stage curtains, lighting panels/controls, seating.
- LGI Room renovation / upgrade.
- Install ACT ceiling and re-work ductwork in classrooms.
- Replace (2020), 110 heat pumps (10-15 year life – installed 2005).
- Remove carpet and install VCT in Nurse, Room 400, ISS, Room 520, Music, and Room 514.

Physical Plant Recommendations:

- Replace gymnasium flooring.
- Renovations to existing Auditorium.
- Replace boiler room doors / louvers. Address safety concern at grade above with fence and/or railing.
- Complete an ADA audit and develop list of prioritized recommendations.
- Ongoing repair / replacement of interior finishes as required.
- Program renovations to existing Large Group Room.
- Program renovations to existing Library.
- Construct Student Store adjacent to Auditorium and Commons.
- Provide new furniture to allow for improved student collaboration, and project-based learning opportunities.
- New exhaust fans in administration office toilet rooms.
- Provide additional exterior parking lot lighting.

FACILITY OVERVIEW

Building	Construction Date	Size	Grade Level
Big Spring High School	2003	225,000 SF	9-12

Location 43 Mount Rock Road
Newville, PA 17241

Site Size 78 acres

Student Capacity
- PDE Capacity *1,541*
-Functional Capacity *1,382*

Student Enrollment Approx. 855 (2014-15)

Municipal Jurisdiction: West Pennsboro Township

Occupancy Group Group 'B' Educational

Construction Type Non-Combustible

Applicable Building Codes:

- PA Uniform Construction Code (UCC):
  International Existing Building Code / 2009
  International Building Code / 2009 Excluding Chapters 1, 11 & 30
  International Building Code / 2012 Chapter 11 & Appendix 'E'
  National Electric Code–2008
  International Energy Conservation Code 2009 or 2007 ASHRAE 90.1
  International Fire Code 2009
  International Fuel Gas Code 2009
  International Mechanical Code 2009
  International Plumbing Code 2009
  International Urban-Wildland Interface Code 2009

- 2010 ADA Standards

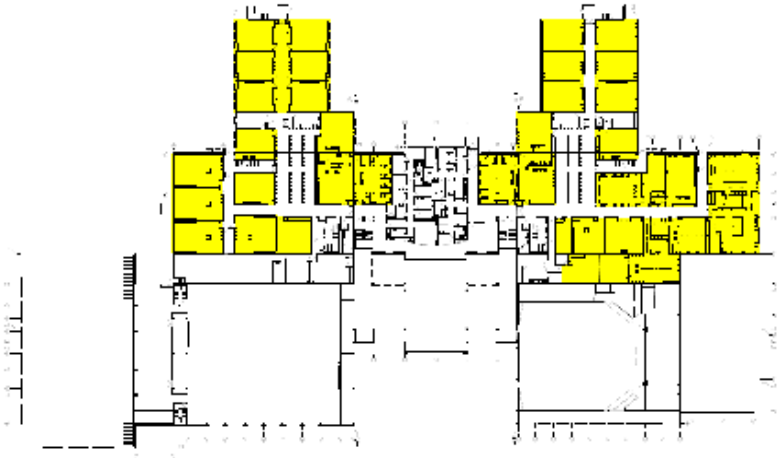
FACILITY OVERVIEW

Aerial Site View

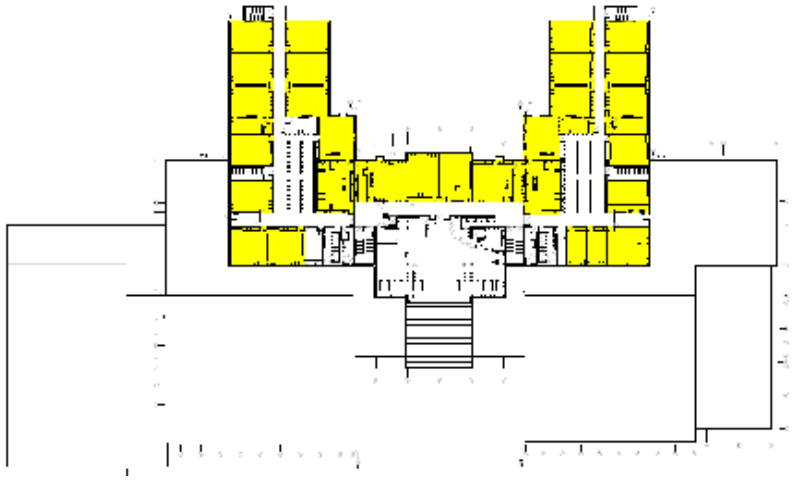
FACILITY OVERVIEW

Existing Floor Plans

First Floor **Yellow Highlighted areas indicate instructional classrooms*



Second Floor



FACILITY OVERVIEW

Third Floor

Building

The Big Spring High School was constructed in 2003. Overall, the building is in very good condition. The High School is located across Mt. Rock Road from the current Middle school and Mount Rock Elementary School campus. The High school football stadium and track facilities are located adjacent to the current MS (original HS), across Mt. Rock Road. The High school Weight room and Fitness facilities are located in the Mount Rock Elementary school (original MS), across Mt. Rock Road.

Site

The school is located in West Pennsboro Township, on a sloped site, part of an overall 70 acre site, including the adjacent Mount Rock Elementary School. School buses loading and unloading park on the north and south sides of the building.
Parents typically pick up students at the main entrance, on the north side of the building, and exit onto either Schoolhouse or Mt. Rock Road.

District Office and Maintenance staff enter the site on the south side of the Middle School and loop around the building, exiting back onto Mt. Rock Road. Visitor and staff parking are located on the northwest side of the building, adjacent to the main entrance. The service and delivery area is located at the rear of the building, accessed via the circulation loop around the building. The site is well drained and landscaped and offers an ample amount of recreational space. Hard play area does not exist.

Two main classroom wings, run predominantly in the north-south direction, connected with secondary circulation corridors at several locations, creating two internal courtyards. The 1979 additions included a Library and Large Group Room, which infilled a portion of the courtyards. The Cafeteria is located at the main entrance and serves as a Commons and lobby space between the Gymnasium and Auditorium, when not used for dining. The site does allow for some limited expansion of the building. Existing district maintenance and warehousing space, located in a one story wing adjacent to the Auditorium, could be repurposed into educational space, if needed.

Program Spaces

Several spaces were left relatively untouched during the last renovation, including the Auditorium, the Large Group Room, and the Library, and are in need of programmatic improvements to better support and enhance the Middle School program. A student store, located adjacent to the Commons and Auditorium areas would allow for more widespread access and enhance the use. New furniture that better supports student collaboration, teaming and project–based learning opportunities should be considered for the school.

Codes and Constraints

The building is code compliant, having been designed to meet the building codes at the time of its original construction. Recent improvements have been designed to meet current building codes. Future additions and/or renovations would need to consider current codes and a detailed code analysis will have to be performed to determine the extent of any code required improvements.

Building Systems

HVAC:

- The HVAC System for this building utilizes a geo-thermal heat pump system for heating and cooling, installed in 2007. Energy recovery and fresh air units are located on the roof. Hot water is heated by gas fired boilers.

Plumbing:

- Plumbing fixtures are original to the building and in good condition. The building is not protected with a fire suppression sprinkler system.

Electrical:

- The main service equipment & distribution panels are original to the building and in good condition.

Technology:

- Instructional technology includes smart boards and LCD projectors. Wireless technology is provided via access points above corridor ceiling. Enhancements to the current technology system to keep pace with district standards are ongoing.

Overall Recommendations

Overall, the school is in good condition. The lifespan of the major building components and operational systems is in the 15-20 year range, while some system components, as well as finishes and equipment are in need of ongoing maintenance. Educational program related needs should be incorporated into capital facility improvements.

FACILITY OVERVIEW

Summary

Current Projects listed in the March 2, 2015 Facilities Master Plan update:

- Pool Area upgrades – Replace Pool lockers, address upper seating railing, storage in Equipment Room).
- Parking Lot – Pothole repair.
- Review and upgrade of emergency power to PA/Intercom system, public address system upgrades.
- Secondary Cafeteria seating plan.
- Add 2 urinals and urinal screens to Men's restroom at east end of Commons area.
- Remediation of athletic fields – drainage and additional top soil.
- Engineering fees for design of tunnel under Mt. Rock Road from HS to Mt. Rock ES.
- Roof refurbishment (White Knight).
- Tunnel under Mt. Rock Road from High School to Mount Rock ES.
- Windows at Commons Are (moisture in glass), Inspect and replace.
- Gym floor refurbishment by contractor.
- Stadium improvements – New restrooms, Locker rooms, Band Dressing Rooms, Concessions, Storage Areas, Ticket Booths.
- Stadium improvements – Replace deteriorating stadium fence.
- Safety barriers outside of Commons area.
- Auditorium upgrades – Sound/light board replacement, move Tech Booth, inspect rigging, new curtain pull rope, shelving).

Physical Plant Recommendations:

- Replace Pool Pack at Natatorium.
- Replace Natatorium Locker room lockers.
- Refurbish Locker room resinous floor finish.
- Replace existing Natatorium lights w/ LED type.
- Replace curtain wall glazing panels where the seals have failed at the Commons.
- Provide speakers and connection to the PA system in the Office and Counseling areas, outside Commons area, and in the Natatorium and Locker room areas.
- Install safety barriers in front of the large glass windows at the Commons.
- Replace sound and lighting control boards in the Auditorium.
- Move tech booth to the rear of the Auditorium.
- Inspect Auditorium curtain rigging system and make any necessary improvements.
- Insert screen system along bottom of the upstairs spectator area in the Natatorium.

FACILITY OVERVIEW

Physical Plant Recommendations – cont'd:

- Provide individual team equipment storage in the upstairs equipment room above the Natatorium.
- Refinish Gym floor.
- Improve Band Room acoustics.
- Soundproofing of the Music Room practice rooms.
- Create a guitar and keyboard lab.
- Provide minimum of two 30 amp breakers and one 220v outlet in the Food Lab.
- In the Food Lab, provide new oven, stove, and washer/dryer combination unit.
- Upgrades / repairs to Greenhouse ridge vent and water line.
- Replace barrels and ductwork on the dust collection system in the Wood Shop.
- Replace welding equipment (moved here from old HS).
- Complete the finishing room in the Wood Shop.
- Consider Program use of original Wood Shop, possibly as an Electronics Lab.
- Consider installation of ramp at loading dock.
- Replace carpet in Conference Room (227).
- Consider lighting system upgrades including adding motion sensors to corridor lights and installation of LED lights in the Commons.

FACILITY OVERVIEW

Building	Construction Date	Size	Grade Level
Mifflin School (River Rock Academy)	(1955)	15,659 SF	N/A

Location 399 Roxbury Road
Newville, PA 17241

Site Size 12.60 acres

Student Capacity
- PDE Capacity *N/A*
-Functional Capacity *N/A*

Student Enrollment N/A

Municipal Jurisdiction: Lower Mifflin Township

Occupancy Group Group 'B' Educational

Construction Type Non-Combustible

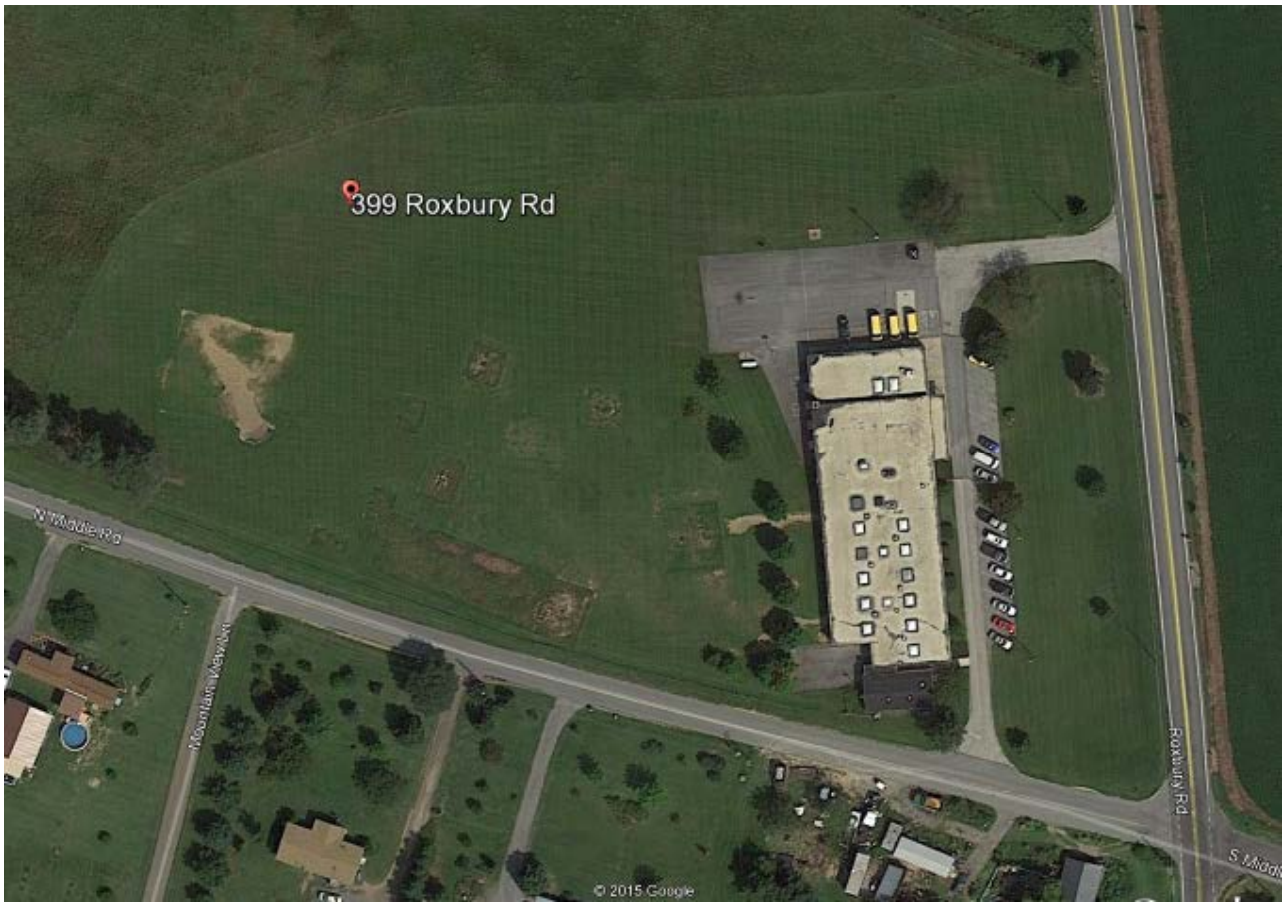
Applicable Building Codes:

- PA Uniform Construction Code (UCC):
  International Existing Building Code / 2009
  International Building Code / 2009 Excluding Chapters 1, 11 & 30
  International Building Code / 2012 Chapter 11 & Appendix 'E'
  National Electric Code–2008
  International Energy Conservation Code 2009 or 2007 ASHRAE 90.1
  International Fire Code 2009
  International Fuel Gas Code 2009
  International Mechanical Code 2009
  International Plumbing Code 2009
  International Urban-Wildland Interface Code 2009

- 2010 ADA Standards

FACILITY OVERVIEW

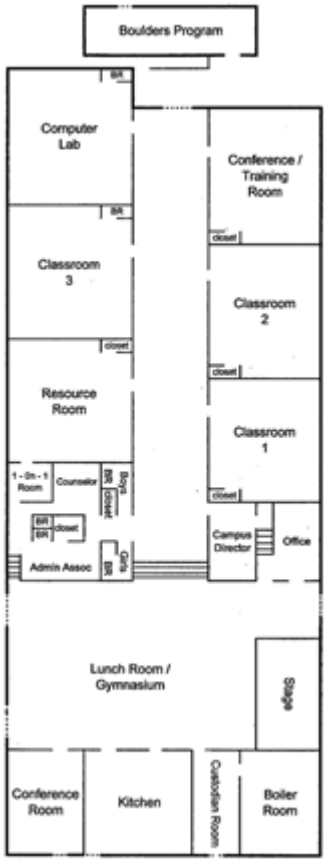
Aerial Site View



FACILITY OVERVIEW

River Rock Academy

Existing Floor Plan



FACILITY OVERVIEW

Building

The Mifflin School building was constructed in 1955 as the Mifflin Elementary School. The building remained in service as an elementary school until 2006 when it was closed. The building is a one story building, with exterior brick veneer and some "dryvit" window infill panels. The building structural system is masonry load bearing, with steel framing.

The existing roofing system is in need of replacement, as well as exterior windows and doors.

Site

The school is located in Lower Mifflin Township, on a gently sloping sit, with ample exterior play and recreation space. Entrance to the site is off Roxbury road and the exit is onto N. Middle Road.

The majority of the parking is in the front of the building, with some parking on the north side, adjacent to the hard surface play area.

The building is simple in plan, with a main north-south corridor, six classrooms and a multi-purpose room.

Program Spaces

The building is currently operated by the River Rock Academy, Newville Campus.

The facility provides alternative education for disruptive youth services for students in grades 6-12 and also functions as a private licensed academic school for regular and special education elementary students grades 3,4,5

Codes and Constraints

The current building is not compliant with current building codes, and does not meet current ADA accessibility requirements and guidelines, however the existing facility is grandfathered under the codes in effect at the time it was constructed. ADA requirements are a civil law, and as such, are not grandfathered under previous building codes. If the facility were to undergo renovations; code related renovations including ADA, life-safety and ventilation improvements

Building Systems

Building systems are original, for the most part and have outlived their useful and rated life capacity. If the building is to be maintained by the school district, it is recommended that the existing facility undergo a detailed facility evaluation, and that a prioritized list of recommended improvements be developed for consideration and implementation by the school district.

Overall Recommendations

The school facility was closed in 2005 for use as a public elementary school. It does not appear, based upon enrollment projections, that an additional elementary school facility will be needed in the foreseeable future. Given this , as well as the limitations of the building to accommodate expansion, due to the on-site sanitary system, it is recommended that the district consider the sale of the building.

If the building is maintained by the school district. it is recommended that the existing facility undergo a detailed facility evaluation, and that a prioritized list of recommended improvements be developed for consideration and implementation.

SECTION 4 - OPTIONS

Crabtree, Rohrbaugh & Associates
Architects
401 East Winding Hill Road
Mechanicsburg, Pennsylvania 17055
phone: (717) 458-0272 - fax: (717) 458-0047

OPTIONS

Introduction

The Big Spring school District desires to provide equal educational opportunities for all students and to maintain its current community schools. In order to maintain these characteristics, the information presented in this section details the recommendations for renovations and additions that the Big Spring School District can take to address the facility needs at the Newville Elementary School, as well as address short and long term capital facility needs at the remaining school district facilities, as part of the school district's s ongoing Master Plan approach to managing facility needs.

Recommended Facility Improvements:

- ✓ Renovations and additions to the Newville Elementary School.
- ✓ Stadium improvements as outlined within the study.
- ✓ Prioritized implementation of short and long term facility recommendations as outlined within this study at the following facilities:

    - *Oak Flat Elementary School*
    - *Mount Rock Elementary school*
    - *Big Spring Middle School*
    - *Big Spring High School*
    - *High School Stadium*

The information, as outlined in this section, has been developed to:

- Address the facility needs as identified within the study, with the ultimate goal of making recommendations that would serve to update and extend the functional life of the current facilities and operational systems an additional 20 – 25 years into the future.
- Address the present and projected population in the school district.
- Provide preliminary project cost information for planning purposes.
- Provide a statement of eligible financial reimbursement from the PA Department of Education. For any PlanCon project.
- Provide background and planning information to allow the school board to make informed decisions regarding short and long term facility needs, working in conjunction with the current Master Plan, developed by Wolf Consulting Engineers, LLC, from March, 2015.

In researching the various options, the following planning assumptions have been made:

1. The Big Spring School District will maintain current programs.
2. The Elementary School program will continue to include grades K-5.
3. The School District does not wish to realign attendance zones at this time.
4. Although enrollment increase is not a predominate issue, there is a need for space to accommodate itinerate and special education instruction as well as pull-out and collaborative instruction.
5. The Big Spring School District, in response to the ongoing and changing environmental and energy issues which affect all of us, desires to maintain buildings that are environmentally conscious and energy efficient.

NEWVILLE ELEMENTARY SCHOOL

Newville Elementary School Capacity

The current Newville Elementary School is operating at a capacity that is below the recommended Functional Capacity of the building. There is room to accommodate a slight increase in student enrollment, however the building is in need of renovations and additions are recommended to address the long term programmatic needs of the facility.

- ✓ Renovations to the physical Plant will extend the life of the facility and the operational systems another 20-25 years.

- ✓ Building additions will address the need to provide an appropriately sized Multi-Purpose Room and Kitchen, address the need for storage and allow for the provision of small group, tutoring and pull-out resource instruction spaces.

Elementary School Projected Enrollment

- ✓ The Pennsylvania Department of Education enrollment projections indicate that the highest projected enrollment for the K-5 grade grouping is 1,291 for the 2021-22 school year.

- ✓ The CRA Cohort Survival projections indicate that the highest projected enrollment for grades K-5 is 1,227 students in the 2019-20 school year.

CURRENT ELEMENTARY FACILITIES – CONSIDERATIONS

- The current Newville Elementary School is in need of Life-Safety & Building Code, Physical Plant and Educational Program upgrades in order to extend the functional life of the facility an additional 20 – 25 years.

- Newville Elementary School is below capacity based upon the current utilization, and can accommodate a slight increase in student population. .

- The current school lacks appropriate amount of small group, resource and itinerant instructional space.

- The current school lacks adequate storage space, as much of the existing storage space has been converted to resource instructional space.

- The current Multi-Purpose Room and Kitchen is inadequate to meet the needs of the school.

- Expansion possibilities are limited due to site size and configuration, and the location of existing underground geothermal HVAC system wells.

- The Newville Elementary School facility does not offer equitable facilities as those of the other district elementary schools.

- The Newville Elementary School may be eligible for financial reimbursement as part of the PA Department of Education (PDE) “PlanCon” process, if a PlanCon Part A is submitted to PDE prior to July 1, 2015.

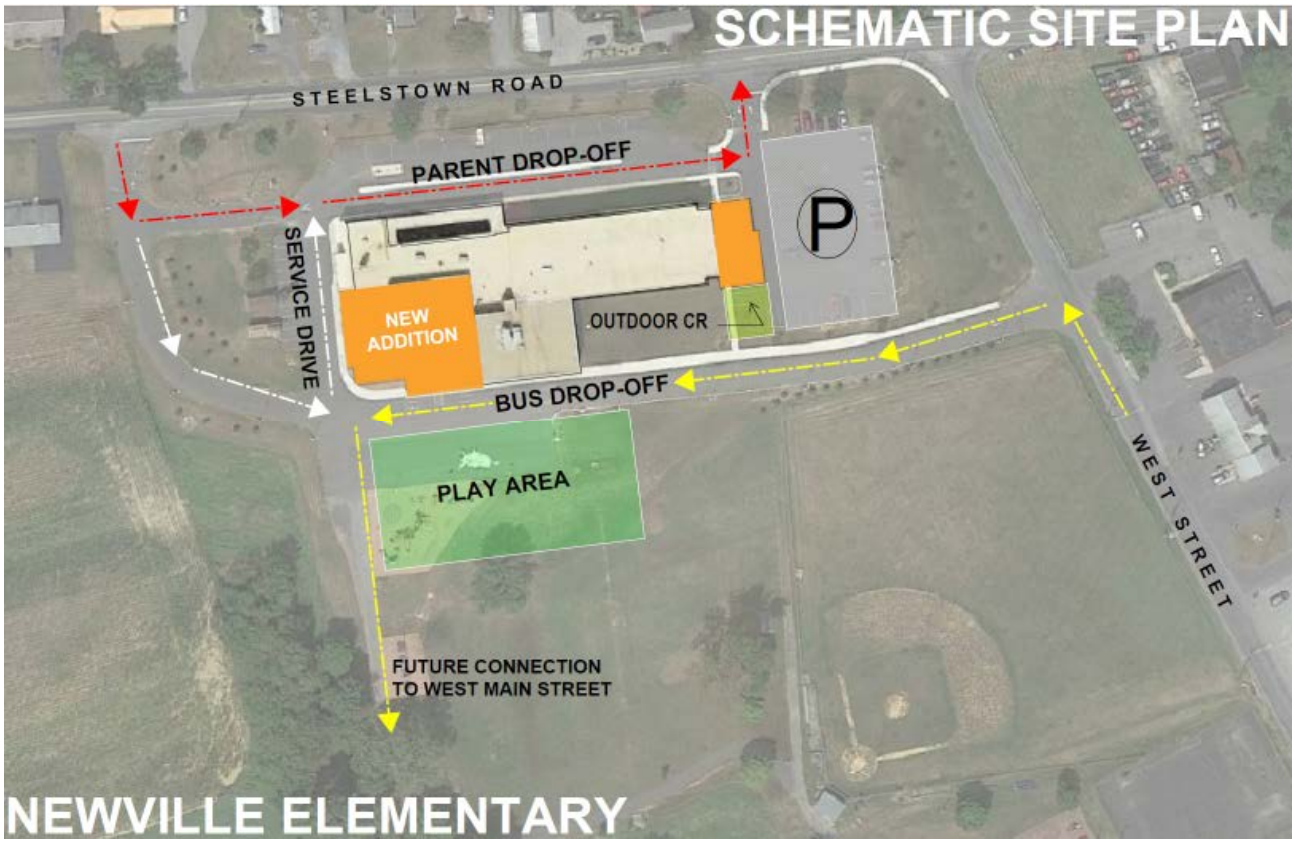
NEWVILLE ELEMENTARY SCHOOL

Newville Elementary school
OPTION SUMMARY

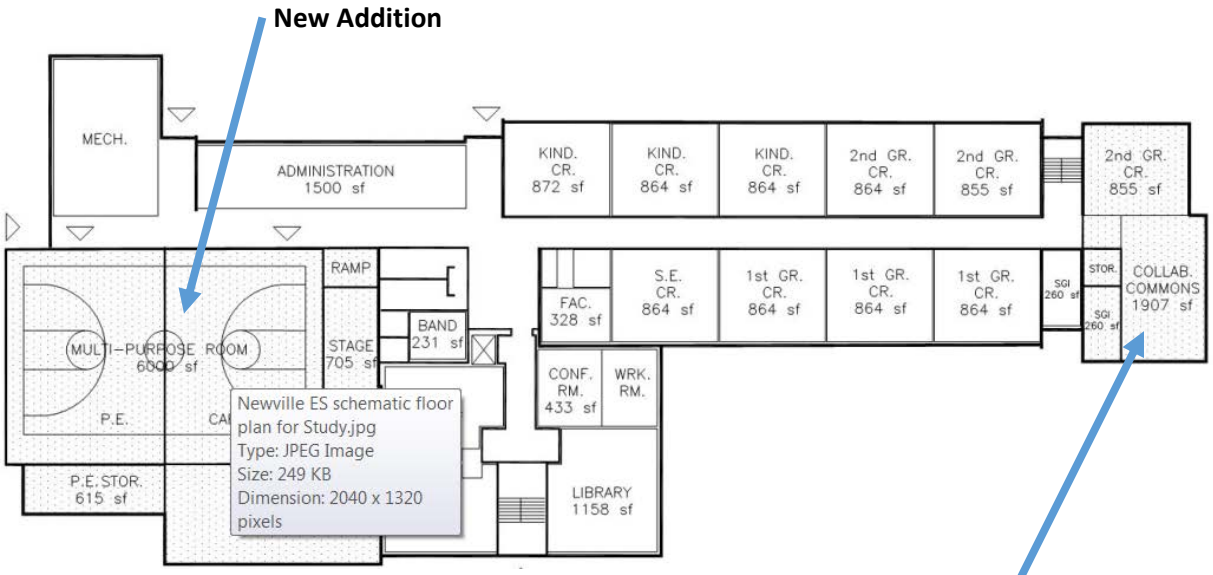
Renovations and building additions to the existing Newville ES to address the need to provide an appropriately sized Multi-Purpose Room and Kitchen, address the need for storage and allow for the provision of small group, tutoring and pull-out resource instruction spaces.

- ✓ ***Demolish existing Cafeteria and Kitchen***
- ✓ ***Construct new Cafeteria, Stage and Kitchen***
- ✓ ***Construction of small Classroom addition***
- ✓ ***Reorganization of existing Program areas***
- ✓ ***Renovations to existing building***

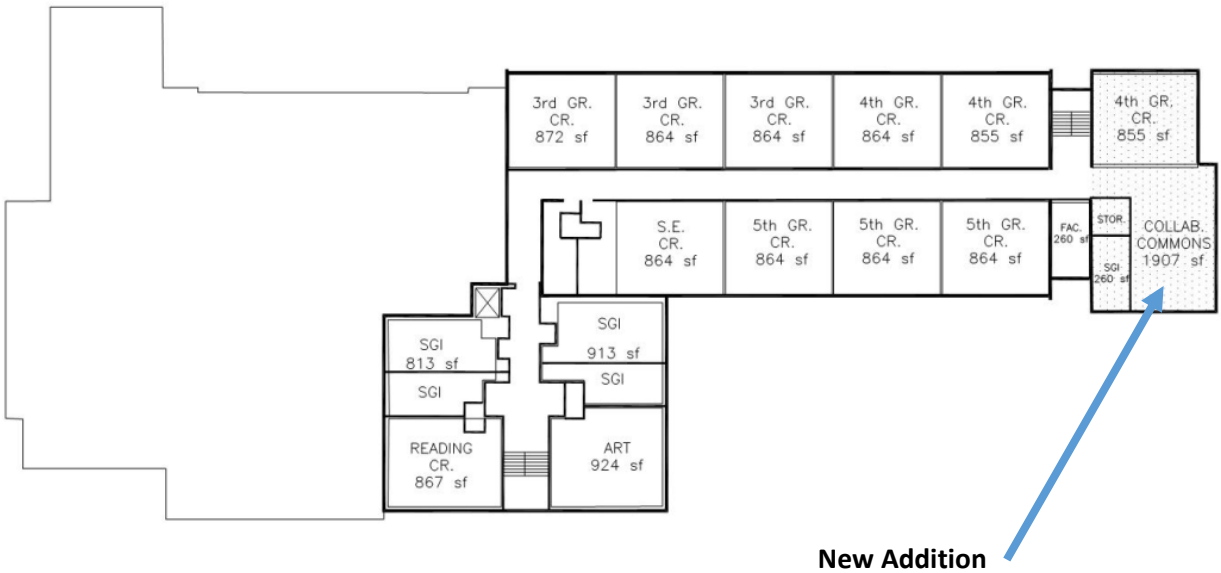
OPTION - Site Plan



OPTION - Floor Plans

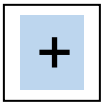


First Floor Plan



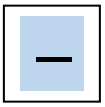
Second Floor Plan

CONSIDERATIONS



Advantages

- ✓ Maintains community school.
- ✓ Some additional capacity provided to accommodate future growth of enrollment.
- ✓ Addresses Physical Plant issues at Newville ES.
- ✓ Addresses educational equity issues among elementary facilities.
- ✓ Long term solution.
- ✓ Financial reimbursement from PDE.



Disadvantages

- ✓ Cost.
- ✓ Consider construction phasing plan to minimize disruption to students and staff.

Projected Cost

✓ Total Construction Cost	- $6,880,029
✓ Total Project Cost	- $7,912,034
✓ Reimbursement	- $1,963,308
✓ **District Net**	**- $5,948,726**

OPTION – Cost Estimate

NEWVILLE ELEMENTARY SCHOOL				
Preliminary Construction Cost Estimate				Jun-15
OPTION		**Renovations / Additions**		
			Unit	Subtotal
1	**Existing Area**	43,362		
2	**Hazardous Materials Abatement**	15,500	$4.00	$ 62,000
3	**Selective Building Demolition**	5,000	$9.00	$ 45,000
4	**Renovation Area**	35,000	$105.00	$ 3,675,000
	- General Renovations			
	-Window & door replacement			
	-Door / hardware replacement			
	-ADA upgrades			
	- Casewrok / Interior finishes			
	- HVAC			
	- Plumbing			
	- Electrical			
	- Data / Technology			
5	**New Construction**	12,000	$155.00	$ 1,860,000
6	**Site Work**		LS	$ 750,000
7	subtotal		SF	$ 6,392,000
8	Design Contingency / Escalation		3%	$ 191,760
	CONSTRUCTION SUB-TOTAL			**$ 6,583,760**
9	Construction Testing / Inspection		2%	$ 98,756
10	Construction Contingency		3%	$ 197,513
11	**Construction Cost Total**			**$ 6,880,029**
12	Temporary Classrooms			$ -
13	Additional Soft Costs (Permits, fees, FF&E, etc.)		15%	$ 1,032,004
14	**Estimated Total Project Cost**			**$ 7,912,034**

OPTION – Project Reimbursement

PRELIMINARY CALCULATION OF REIMBURSEMENT			
BIG SPRING SCHOOL DISTRICT			
Newville Elementary School - Reimbursable PlanCon Renovation Project			
PROJECT DATA			
MVAR or CARF			.5425
Elementary FTE			500
Secondary FTE			
Vocational			
Costs, Alterations			$4,917,017
Costs, New			$2,995,017
Existing Area			38,362
New Area			12,000
Site Acquisition			0
Rough Grading (Bldg)			0
Sewage Treatment			$0
(For Sewage Treatment Reimbursement, New FTE)			0
Arch.' Fee (Site, Grading and Sewage)			$0
Total Project Costs			$7,912,034
REIMBURSEMENT			
	FTE	**RPC**	**FORMULA AMOUNT**
Elementary	500	700	$3,290,000
Secondary	0	0	$0
Voc Ed	0	0	$0
ADDITIONAL REIMBURSEMENT			
Design Clearinghouse		0	$0
Existing building	500	700	$329,000
LEED certification	0	0	$0
			$3,619,000
	ARCH. SQ FT	**AMT REIMBURSABLE**	**EST. PROJ. COST**
EXISTING AREA	38,362	$2,756,592	$4,917,017
NEW AREA	12,000	$862,408	$2,995,017
TOTAL	50,362	$3,619,000	$7,912,034
LESSER OF ACTUAL COST OR FORMULA			$3,619,000
Site Acquisition			$0
Rough Grading (Bldg)			$0
Sewage Treatment			$0
Arch.' Fee (Site, Grading and Sewage)			$0
Maximum Reimbursable Amount			$3,619,000
Total Project Costs			$7,912,034
Effective Reimbursement (Amt & %)		$1,963,308	.2481
Total Costs	**State Share**	**Local Share**	
$7,912,034	$1,963,308	$5,948,727	

OAK FLAT ELEMENTARY SCHOOL

Recommended Capital Projects

BIG SPRING SCHOOL DISTRICT
Oak Flat Elementary School
Master Plan Capital Improvement Projects

Prioirty Level 1A	- Current project / or being reviewed for funding
Priority Level 1	- Complete in 1-2 years
Priority Level 2	- Complete in 3-4 years
Priority Level 3	- Complete in 5-6 years
Priority Level 4	- Complete in 7-8 years
Priority Level 5	- Priority unassigned

Priority Level	Project Description		Projected Cost
Current Projects Listed in 3/2/2015 Facilities Master Plan			
1A	Repave parking lot, and re-design bus parking and parent pick-up parking	$	346,500.00
2	Masonry and sealant inspection and repairs	$	15,000.00
Physical Plant recommendations			
5	Provide ADA accessible compliant interior door hardware.		TBD
5	Provide ADA compliant interior room identification and directional signage.		TBD
5	Complete an ADA audit and develop list of prioritized recommendations.		TBD
5	Ongoing repair / replacement of interior finishes and casework as required.		TBD
5	Consider alternatives to address Program related issues as identified in the facility summary.		TBD
	Sub-total	**$**	**361,500.00**
	20% soft costs / Contingency / Escalation	**$**	**72,300.00**
	Total	**$**	**433,800.00**

MOUNT ROCK ELEMENTARY SCHOOL

Recommended Capital Projects

BIG SPRING SCHOOL DISTRICT
Mount Rock Elementary School
Master Plan Capital Improvement Projects

Prioirty Level 1A	- Current project / or being reviewed for funding
Priority Level 1	- Complete in 1-2 years
Priority Level 2	- Complete in 3-4 years
Priority Level 3	- Complete in 5-6 years
Priority Level 4	- Complete in 7-8 years
Priority Level 5	- Priority unassigned

Priority Level	Project Description	Projected Cost
Current Projects Listed in 3/2/2015 Facilities Master Plan		
1	Install new rooftop HVAC unit for locker room area.	$ 50,000.00
1	Replace carpet in Library.	$ 35,000.00
1	Parking lots - reconfiguration, expansion, paving	$ 400,000.00
2	Remove tiered floor in LGI and divide into classrooms.	$ 250,000.00
2	New roof.	$ 1,350,000.00
2	Remove asbestos floor tile and replace with VCT.	$ 300,000.00
2	Tunnel under Mt. Rock Road from High School to Mount Rock ES.	*(incl. under HS costs)*
3	Replace windows.	$ 400,000.00
3	Additional storage in gym.	$ 10,000.00
3	Additional storage at office area.	$ 10,000.00
3	Roof resurfacing (White Knight energy coating), at DAO Annex.	$ 135,952.00
Physical Plant Recommendations		
1	Reconfigure front parking, bus and parent drop off areas.	included above
5	Complete an ADA audit and develop list of prioritized recommendations.	TBD
5	Ongoing repair / replacement of interior finishes and casework as required.	TBD
5	Consider alternatives to address Program related issues as identified in the facility summary.	TBD
3	Replace existing windows.	included above
3	Replace existing roofing system.	included above
5	Masonry and sealant inspection and repairs.	TBD
	Sub-total	**$ 2,940,952.00**
	20% soft costs / Contingency / Escalation	**$ 588,190.40**
	Total	**$ 3,529,142.40**

BIG SPRING MIDDLE SCHOOL

Recommended Capital Projects

BIG SPRING SCHOOL DISTRICT
Big Spring Middle School
Master Plan Capital Improvement Projects

Prioirty Level 1A	- Current project / or being reviewed for funding
Priority Level 1	- Complete in 1-2 years
Priority Level 2	- Complete in 3-4 years
Priority Level 3	- Complete in 5-6 years
Priority Level 4	- Complete in 7-8 years
Priority Level 5	- Priority unassigned

Priority Level	Project Description	Projected Cost
Current Projects Listed in 3/2/2015 Facilities Master Plan		
1A	Parking lots – speed hump installation and repair asphalt settlement in main parking lot.	$ 14,000.00
1A	White Knight roof refurbishment.	$ 1,286,808.00
1	Secondary Cafeteria seating plan.	*(incl. under HS costs)*
1A	Security repair & replace wireless points at MS.	*(incl. under HS costs)*
2	Gym floor replacement w/ wood floor.	$ 200,000.00
2	Brick re-pointing (only portions showing deterioration).	$ 75,000.00
2	Replace or refurbish EIFS (dryvit) finish at Library, LGI, and Maintenance Office. Provide new windows at these areas.	$ 175,000.00
3	Renovate Auditorium, construct Student Store- remove asbestos floor tile & acoustics, stage curtains, lighting panels/controls, seating.	$ 1,500,000.00
3	LGI Room renovation / upgrade.	$ 50,000.00
3	Install ACT ceiling and re-work ductwork in classrooms.	$ 450,000.00
3	Replace (2020), 110 heat pumps (10-15 year life – installed 2005).	$ 100,000.00
3	Remove carpet and install VCT in Nurse, Room 400, ISS, Room 520, Music, and Room 514.	$ 25,000.00
Physical Plant Recommendations		
2	Replace gymnasium flooring.	included above
3	Renovations to existing Auditorium.	included above
5	Replace boiler room doors / louvers. Address safety concern at grade above with fence and/or railing.	TBD
5	Complete an ADA audit and develop list of prioritized recommendations.	TBD
5	Ongoing repair / replacement of interior finishes as required.	TBD
3	Program renovations to existing Large Group Room.	included above
5	Program renovations to existing Library.	TBD
3	Construct Student Store adjacent to Auditorium and Commons.	included above
5	Provide new furniture to allow for improved student collaboration, and project-based learning opportunities.	TBD
5	New exhaust fans in administration office toilet rooms.	TBD
5	Provide additional exterior parking lot lighting.	TBD
	Sub-total	**$ 3,875,808.00**
	20% soft costs / Contingency / Escalation	**$ 775,161.60**
	Total	**$ 4,650,969.60**

BIG SPRING HIGH SCHOOL

Recommended Capital Projects

BIG SPRING SCHOOL DISTRICT
Big Spring High School
Master Plan Capital Improvement Projects

Prioirty Level 1A	- Current project / or being reviewed for funding
Priority Level 1	- Complete in 1-2 years
Priority Level 2	- Complete in 3-4 years
Priority Level 3	- Complete in 5-6 years
Priority Level 4	- Complete in 7-8 years
Priority Level 5	- Priority unassigned

Priority Level	Project Description	Projected Cost
Current Projects Listed in 3/2/2015 Facilities Master Plan		
1	Pool Area upgrades – Replace Pool lockers, address upper seating railing, storage in Equipment Room).	$ 68,600.00
1	Parking Lot – Pothole repair.	$ 7,300.00
1	Review and upgrade of emergency power to PA/Intercom system, public address system upgrades.	$ 40,000.00
1	Secondary Cafeteria seating plan.	$ 65,000.00
1	Add 2 urinals and urinal screens to Men's restroom at east end of Commons area.	$ 3,000.00
1	Remediation of athletic fields – drainage and additional top soil.	$ 85,000.00
1A	Engineering fees for design of tunnel under Mt. Rock Road from High School to Mt. Rock ES.	$ 157,500.00
2	Roof refurbishment (White Knight).	$ 949,856.00
2	Tunnel under Mt. Rock Road from High School to Mount Rock ES.	$ 623,387.00
3	Windows at Commons Area (moisture in glass), Inspect and replace.	$ 15,000.00
3	Gym floor refurbishment by contractor.	$ 40,000.00
3	Stadium improvements – New restrooms, Locker rooms, Band Dressing Rooms, Concessions, Storage Areas, Ticket Booths.	$ 2,100,000.00
3	Stadium improvements – Replace deteriorating stadium fence.	$ 35,000.00
4	Safety barriers outside of Commons area.	$ 30,000.00
4	Auditorium upgrades – Sound/light board replacement, move Tech Booth, inspect rigging, new curtain pull rope, shelving).	$ 60,000.00
Physical Plant Recommendations		
	Replace Pool Pack at Natatorium.	*to be completed summer 2015*
	Replace Natatorium Locker room lockers.	included above
	Refurbish Locker room resinous floor finish.	TBD
	Replace existing Natatorium lights w/ LED type.	TBD
	Replace curtain wall glazing panels where the seals have failed at the Commons.	included above
	Provide speakers and connection to the PA system in the Office and Counseling areas, outside Commons area, and in the Natatorium and Locker room areas.	TBD
	Install safety barriers in front of the large glass windows at the Commons.	included above
	Replace sound and lighting control boards in the Auditorium.	included above
	Move tech booth to the rear of the Auditorium.	TBD
	Inspect Auditorium curtain rigging system and make any necessary improvements.	TBD
	Insert screen system along bottom of the upstairs spectator area in the Natatorium.	included above
	Provide individual team equipment storage in the upstairs equipment room above the Natatorium.	included above
	Refinish Gym floor.	TBD
	Improve Band Room acoustics.	TBD
	Soundproofing of the Music Room practice rooms.	TBD
	Create a guitar and keyboard lab.	TBD
	Provide minimum of two 30 amp breakers and one 220v outlet in the Food Lab.	TBD
	In the Food Lab, provide new oven, stove, and washer/dryer combination unit.	TBD
	Sub-total	**$ 4,279,643.00**
	20% soft costs / Contingency / Escalation	**$ 855,928.60**
	Total	**$ 5,135,571.60**

Summary - Recommended Capital Projects

BIG SPRING SCHOOL DISTRICT			
Big Spring High School			
SUMMARY - Master Plan Capital Improvement Projects			
SCHOOL	**CURRENT MASTER PLAN PROJECTS - PROJECTED COST**		**ADDITIONAL PHYSICAL PLANT RECOMMENDATIONS - PROJECTED COST**
OAK FLAT ES	$	361,500.00	TBD
MOUNT ROCK ES	$	2,940,952.00	TBD
NEWVILLE ES	$	3,700,000.00	
Option 2 (Adds / Alts)	**$**	**7,912,034.00**	**Preliminary Scope / Estimate**
BIG SPRING MS	$	3,875,808.00	TBD
BIG SPRING HS	$	4,966,643.00	TBD
MIFFLIN BUILDING	$	391,475.00	TBD
DISTRICT IT	$	50,000.00	
CURRENT MASTER PLAN PROJECTS			
Sub-total	**$**	**16,286,378.00**	
20% Contingency/Soft Costs/Escalation	$	3,257,275.60	
TOTAL	**$**	**19,543,653.60**	
SCENARIO 2			
Sub-total w/ Newville ES - Option 2	$	20,498,412.00	
20% Contingency/Soft Costs/Escalation	$	4,099,682.40	
TOTAL	**$**	**24,598,094.40**	

Building Condition Analysis
Planning Considerations

Facility evaluations include estimates of the needed improvements and recommended facility improvements which appear in this report. Key points to consider when planning renovations or new construction are:

- What are the educational goals of the School District?
- How do the educational facilities fit into the overall short/long term plans of the School District and Community?
- How big is "too big" in terms of school size for our Communities?
- Can the facility be effectively/efficiently renovated?
- What is the historical significance of the area?
- What is the financial support for the proposed project?
- Is it the goal of the School District to provide equitable educational facilities at all levels?
- What is the most cost effective use of taxpayer financed improvements?
- What are the ramifications of doing nothing?

Renovation and New Construction Considerations

- **Construction Cost**
  - Is cost the most important consideration?
  - Is it less expensive to change the existing building, or build new?

- **Functional Adequacy**
  - Will the renovated building meet the needs and expectations of the educational program, faculty & staff, students and community?
  - Are the compromises acceptable?
  - Can the existing building accommodate the desired changes?

- **Operating Costs**
  - How much energy is currently being wasted by inefficient mechanical and electrical systems? ...improper insulation in roof, walls, windows? ...no vestibule air locks at main entrance doors?
  - How long will the existing systems last before replacement is required?
  - What do new systems cost and how much energy will they save?

- **Expandability**
  - Can future building additions be accommodated?
  - Are there site restrictions?
  - Are there building organization restrictions?
  - Can existing core spaces support additional students?

- **Flexibility**
  - Can walls and structure be moved easily?
  - Are future modifications technically feasible?

Renovation and New Construction Considerations

- **Aesthetics**
  - Does the building represent an appropriate image of the community?
  - Does the building provide an atmosphere that is conducive to learning?
  - What is the historical significance of the building?
  - Are the lighting, color schemes and finishes appropriate?
  - Does the school represent the institutional backdrops of the past?

- **Site Considerations**
  - Do all the planned changes fit on the site?
  - Is there sufficient parking and driveways (faculty, public, bus, visitors)?
  - Is storm water detention required and if so, is it feasible/affordable?
  - Will regulatory agencies allow land use development changes?
  - Do all desired recreational activities fit?

- **Heath and Safety**
  - Will the existing renovated building meet the expectations on air quality? Hazardous materials? Fire protection and other life safety considerations? Handicapped accessibility and the ADA?

- **Code Restrictions**
  - Codes may require that the renovated building meet current standards. Is this work impractical (too costly for the benefit) for ramps, elevators, chair lifts, fire-rated walls, sprinklers, smoke detection, etc.?
  - Do the codes allow for planned improvements in storm water management, building site coverage, building height or other zoning restrictions?

- **Life-span and Cost**
  - Is initial cost or long-term cost more important?
  - Do current market conditions warrant moving forward with a building project in the immediate future?

- **Student Enrollment**
  - Will there be enough space in the school division to accommodate future enrollments?
  - When should we consider construction / renovation of our facilities to meet enrollment needs? How long does it take to plan and construct school facilities?
  - If our enrollment continues to increase, should we consider grade level changes in our elementary schools to increase building capacity? How does this affect our communities and our students?

ANTICIPATED LIFESPAN OF BUILDING COMPONENTS

COMPONENTS

Site Work
Landscaping ---------- 10-50 years
Building walkways ---------- 20-30 years
Water lines ---------- 30-50 years
Fire lines ---------- 30-50 years
Water supply system ---------- 30 years
Sewer lines ---------- 30-50 years
Sewage disposal system --------- 15 years
Site electrical ---------- 50 years
Storm drainage ---------- 20-30 years
Perimeter fencing ---------- 15-20 years
Parking and bus loop ---------- 20 years
Play and athletic fields ---------- 30 years
Playground equipment ---------- 15 years

Foundation
Basic ---------- 50+ years
Special (fill, piling) ---------- 50+ years

Substructure
Slab on grade ---------- 50+ years

Superstructure
Floor ---------- 50 years
Roof (steel) ---------- 50 years
Roof (wood) ---------- 30 years

Exterior Closure
Exterior wall (masonry) ---------- 50+ years
Exterior wall (wood/EIFS) -------- 5-30 years
Exterior trim ---------- 20-30 years
Exterior soffits ---------- 20-30 years
Windows/frames ---------- 20-30 years
Doors/frames ---------- 20 years

Roofing
Roof structure ---------- 50+ years
Built-up roofing ---------- 20-30 years
Shingle roofing ---------- 25-30 years
Metal roofing ---------- 30 years
Single ply roofing ---------- 10-20 years
Roof insulation (batt) ---------- 50 years
Roof insulation (rigid) ---------- 20-30 years
Roof drains ---------- 20-30 years
Skylights ---------- 20-30 years

Interior walls (paint) ---------- 7-10 years
Interior walls (structure) ---------- 30 years
Vinyl wall covering ---------- 15 years
Interior doors ---------- 30 years
Interior door hardware ---------- 15-20 years
Terrazzo flooring ---------- 50+ years

Interior Construction
Wood flooring ---------- 30-50 years
Resilient flooring ---------- 15-20 years
Ceramic tile ---------- 50+ years
Carpet ---------- 10-15 years
Ceiling (plaster, wallboard) ------ 50+ years
Acoustical ceiling tile ---------- 20-25 years

Specialties
Casework ---------- 20-25 years
Chalkboards ---------- 20-25 years
Toilet accessories ---------- 15-20 years
Lockers ---------- 20 years
Kitchen equipment ---------- 20 years
Fire extinguishers ---------- 15-20 years
Window treatment ---------- 15-20 years
Stage systems ---------- 15-20 years
Auditorium seating ---------- 25-30 years
Moveable partitions ---------- 25-30 years

HVAC

Heating Plant
Steam systems ---------- 30-40 years
Boilers (cast iron, steel) ---------- 40-50 years
Burners ---------- 20 years
Safety relief valves ---------- 30 years
Expansion tanks ---------- 40 years
Gas/propane fuel system --------- 40 years
Oil fuel systems ---------- 40 years
Stacks/breeching ---------- 50+ years
Fuel oil pumps ---------- 30 years
Water recirc. Pumps ---------- 30 years
Auto. Temp controls ---------- 25-30 years
Pneumatic air compressors ------ 15 years
Refrigerant dryers ---------- 10-15 years
Louvers ---------- 40 years
Dampers ---------- 20 years
Fin tube radiation ---------- 35 years
Cast iron radiators ---------- 50+ years
Unit ventilators ---------- 25-30 years

ANTICIPATED LIFESPAN OF BUILDING COMPONENTS

COMPONENTS

Cooling
Central a/c system ---------- 30 years
Window a/c units ---------- 5-15 years

Air Distribution/ Exhaust
Ductwork, diffusers, grilles ------- 40-50 years
Ceiling fans ---------- 20-25 years

PLUMBING

Sanitary
Cast iron piping ---------- 35 years
PVC piping ---------- 50+ years
Sewage ejector pumps ---------- 50+ years
Neutralization basins ---------- 50+ years

Storm water
Storm water piping ---------- 50+ years
Downspouts ---------- 30 years
Gutters ---------- 50+ years
Sump pumps ---------- 30 years

Domestic Cold Water
HVAC make-up water ---------- 50+ years
Galvanized water piping ---------- 30 years
Copper water piping ---------- 50+ years
Backflow prevention ---------- 20-25 years
Constant pressure pumps-------- 30 years
Hydro pneumatic tanks ---------- 30 years

Domestic Hot Water
Gas-fired storage ---------- 10-15 years
Electric-fired storage ---------- 10-15 years
Steam fired storage ---------- 25-30 years
Water to water source ---------- 50+ years
Expansion loops ---------- 50+ years
Temperature mixing valves ------ 15-20 years
Recirculation pumps ---------- 15-20 years

Insulation
Hot and cold piping ---------- 50+ years
Equipment ---------- 50+ years

Natural Gas System
Natural or low pressure ---------- 50+ years
Meter or pressure regulator ------ 50+ years

Fire Protection
Standpipes (wet/dry) ---------- 50+ years
Sprinklers ---------- 50+ years

Plumbing Fixtures
Toilets, urinals ---------- 25-50 years
Service sinks, mop receptors---- 40-50 years
Water coolers ---------- 10-20 years

ELECTRICAL

Power and Distribution
Power supply ---------- 30-35 years
Service ---------- 30-35 years
Distribution panels ---------- 25-30 years
Transformers ---------- 20 years
Wiring ---------- 30-35 years
Receptacles ---------- 30-35 years

Lighting
Security lighting ---------- 20-25 years
Parking areas ---------- 20-25 years
Interior Fixtures ---------- 20-26 years

Life-safety Systems ---------- 20-25 years
Battery pack ---------- 10-15 years
Exit signs ---------- 20-25 years
Egress lighting ---------- 20-25 years

Fire Alarm System
Main panel ---------- 20-25 years
Remote annunciator ---------- 20-25 years
Detection system ---------- 20-25 years

Communications
Public address system ---------- 20 years
Speakers/call buttons ---------- 20-25 years
Clocks/bells ---------- 20-25 years
Telephone system ---------- 20 years
Television system ---------- 35-40 years
Technology wiring ---------- 15-20 years
Security alarm ---------- 15-20 years

AUTHOR'S CREDENTIALS

Name of Firm: Crabtree, Rohrbaugh & Associates, Architects
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401 East Winding Hill Road
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E-mail Address/Website: cra@cra-architects.com / www.cra-architects.com
Names of Officers of the Company: Thomas C. Crabtree, President
G. Douglas Rohrbaugh, VicePres./Secretary

Crabtree, Rohrbaugh & Associates was incorporated in July of 1984, and now has over 70 experienced and recognized leaders in the field of architecture, engineering, design, planning and project management. The firm has significant experience providing architectural and engineering services, facility studies and master plans to School systems in Pennsylvania, Virginia, Maryland, and throughout the Mid-Atlantic region.

Crabtree, Rohrbaugh & Associates began the design of its first educational project in 1993 and has designed over $2 Billion Dollars of educational facilities. We have the ability to provide services through our Corporate Headquarters in Mechanicsburg, Pennsylvania as well as our Charlottesville, Virginia, and Baltimore, Maryland office locations.

Offering our client-oriented philosophy to providing professional architectural services; this client-oriented approach is the cornerstone to the professional relationship that we strive to build and maintain throughout the life of the project and beyond. It is this approach that has forged the client references we enjoy and has developed a long list of repeat clientele who have benefited from an approach to professional design services centered on their goals, ideals, and objectives.

Crabtree, Rohrbaugh & Associates provides several levels of accreditation to our projects, whether it is through Registered Educational Facilities Planners or LEED Certified Designers, our projects receive the highest level of design review and accreditation.

The firm's principals and directors have more than 200 years of experience in architecture.

Crabtree, Rohrbaugh & Associates offers services in the areas of architecture, engineering, landscape design, site planning, interior architecture, and construction administration. The firm designed a variety of projects including educational, retail, health care, religious, governmental, judicial, correctional, detention, warehousing, distribution, manufacturing, corporate office, commercial office, professional office, multi-family housing, residential, hotel, restaurant, recreational and banking facilities.

AUTHOR'S CREDENTIALS

Name of Project Manager: Hal Hart, Associate, AIA, REFP, LEED AP

Education:
Bachelor of Architecture
- Temple University

Associates Degree Architectural Technology
- Thaddeus Stevens College

Professional Affiliation:
American Institute of Architects
Council of Educational Facility Planners International
United States Green Building Council

Facility Studies completed:
William Wetsel Middle School
Madison County High School
Potomac Elementary School
Amelia County Public Schools
Loudoun County Public Schools
Red Lion Area School District
Phoenixville Area School District
South Eastern School District
Philipsburg – Osceola Area School District
Penn Manor School District
Tuscarora Area School District
Lincoln Intermediate Unit #12
Seneca Highlands Intermediate Unit
North Star School District
Clearfield Area School District
Port Allegany School District
Dover Area School District
Pottstown School District
Wyomissing Area School District
Eastern Lancaster County School District
Altoona Area School District
Palmyra Area School District
Susquehanna Township School District
Upper Adams School District
Warren County School District
Elizabethtown Area School Dstrict
Shanksville-Stoneycreek School District
Penn Manor School District

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Bachelor of Architecture
Temple University

Professional Affiliation:
American Institute of Architects
Council of Educational Facility Planners International
United States Green Building Council

School Construction Projects:

Littlestown Area School District
- Rolling Acres Elementary School

Keystone Central School District
- Robb Elementary School

Lewisburg Area School District
- Kelly Elementary School

Cornwall-Lebanon School District
- New Ebenezer Elementary School
- Cedar Crest Middle School
- Cedar Crest High School

Radnor Area School District
- Radnor High School

Red Lion Area School District
- Red Lion Sr. High School

Palmyra Area School District
- Palmyra Middle School

Forest Hills School District
- Forest Hills High School

Port Allegany School District
- Port Allegany Jr/Sr High School
- Port Allegany Elementary School

Susquehanna Township School District
- Susquehanna Twp. High School
- Susquehanna Twp. Middle School

Big Spring School District
- New High School

Milton Hershey School
- Fannie B. Hershey Elementary

Eastern York School District
- Wrightsville Elementary School

Troy Area School District
- Troy Sr. High School

Danville Area School District
- Liberty Valley Elementary School

Eastern Lancaster County School District
- Garden Spot Jr/Sr High School

Penn Manor School District
- Marticville Middle School
- Martic Elementary School
- Central Manor Elementary School
- Pequea Elementary School

Westmoreland County Public Schools
- Washington District Elementary School
- Washington and Lee High School

Fairfax County Public Schools
- Kings Park Elementary School
- Ravensworth Elementary School

Madison County Public Schools
- Madison County High School
- William Wetsel Middle School

Amelia County Public Schools
- Amelia County High School

Loudoun County Public Schools
- Lovettsville Elementary School
- Broad Run High School
- Park View High School
- Hamilton Elementary School
- New Administration Building

Frederick County Public Schools
- Urbana High School